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Consumer prices in 1997

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The May *Review*

This issue of the *Review* is unique in having an article that falls under the umbrella of each of the three largest statistical activities in the Bureau of Labor Statistics—employment, wages, and prices. Marianne A. Ferber and Jane Waldfogel write that having a period of nontraditional work in one's record leads, on average, to a slight reduction of current wages. The impact is most visible among women and workers whose nontraditional arrangement was involuntary.

George R. Gray, Donald W. Myers, and Phyllis S. Myers mined and quarried their way through the Bureau of Labor Statistics' collective bargaining agreements file to catalog and analyze provisions concerning worker safety in more than 700 major contracts. Some of the more frequent subjects to appear include general union-management cooperation clauses, formal labor-management safety committees at the local level, mandates for protective clothing, and establishing safety councils at the national level.

Todd Wilson describes the slowdown in the rate of price increase as measured by the Consumer Price Index (CPI) during 1997. The change in the price of energy swung from a sizeable increase in 1996 to a 3.4-percent decline in 1997. Price increases for food moderated to a 1.5-percent rate, the lowest since 1992. Price increases for all items other than food and energy, a measure often referred to as the "core" CPI, edged down to a rate of 2.2 percent in 1997, the smallest increase in 32 years.

Productivity edges up in the early 90s

The rate of increase in output per hour in the private nonfarm business sector edged up to a compounded annual average rate of 1.1 percent for the years 1990–96. Over the period 1979–90, the rate of increase was 1 percent per year. While the overall change was relatively modest, there have been more visible changes over the long term in the components of labor productivity.

Throughout four intermediate periods—1948–73, 1973–79, 1979–90, and 1990–96—the contribution of capital intensity has stayed very close to its long-term average of 0.7 percent per year. The contribution of labor composition was nearly negligible in 1948–73 and zero in 1973–79 before rising to 0.3 and 0.4 percent per year in the 80s and 90s, respectively. Multifactor productivity, the output per unit of combined capital and labor inputs, rose at a brisk 1.9 percent per year from 1948 to 1973 before collapsing to 0.4 percent in 1973–79. In 1979–90, the average annual multifactor productivity increase bottomed out at nil before edging up to contribute 0.2 percent per year in the early 1990s.

Pay comparisons published

A comprehensive new bulletin, *Occupational Compensation Survey: National Summary, 1996* (BLS Bulletin 2497), and its abridged version, *Occupational Pay and Interarea Comparisons, United States, 1996* (Summary 98–2), present estimates and analysis of interarea pay comparisons for occupational groups in both private industry and State and local government.

For blue-collar work, pay rates tended to be similar in private industry and governments in 1996. In occupations in which there were statistically significant differences, pay for general maintenance workers, level I guards, janitors, and light truckdrivers was higher in State and local government. Pay was higher in private industry for level II maintenance electronics technicians.

For white-collar jobs, private industry often paid professional and administrative workers higher salaries than did State and local governments. In contrast, higher pay for some technical and clerical positions existed in the private sector.

In the contiguous United States, the highest pay relatives (to the average pay level across all industries for an occupational group) occurred in San Francisco for professional, administrative, technical, clerical, and maintenance workers. The highest pay relatives for protective service and janitorial workers were found in Nassau-Suffolk [Counties], New York. By our quick-and-dirty analysis of the mean absolute differential from pay relatives of 100 across several occupational groups, the area that was most like the United States was Columbus, Ohio.

Weekly earnings rise in 1997

Median weekly earnings of full-time wage and salary workers rose to $511 in the fourth quarter of 1997 from $499 a year earlier. This was a 2.4-percent increase over the year, compared with a gain of 1.9 percent in the Consumer Price Index for All Urban Consumers (CPI-U) over the same period.

Women who worked full time had median earnings of $440 per week, compared with the $587 median for men. Female-male earnings ratios were higher for black (81.2 percent) and Hispanic (84.5 percent) workers than they were for white employees (75.4 percent). However, the overall median earnings for Hispanics ($354) and blacks ($410) were lower than the $528 median for whites.

Full-time workers aged 25 and older with less than a high school diploma had median weekly earnings of $324, compared with $465 for high school graduates with no college, $547 for workers with some college or an associate degree, and $789 for those with a bachelor's degree or higher.

On an annual average basis, earnings rose from $490 (current dollars) in 1996 to $503 in 1997. After adjustment for inflation as measured by the CPI-U, the gain was a more modest 0.3 percent to $303 (1982 dollars).

For more information, see news release USDL 9818, *Usual Weekly Earnings of Wage and Salary Workers: Fourth Quarter 1997.* □

The long-term consequences of nontraditional employment

Lower pay of former temporary employees and higher pay of men formerly self-employed are likely caused by unobserved heterogeneity; nonetheless, in wage growth models that eliminate this bias, past part-time work has a negative effect on current wages, which varies with gender and whether the part-time status was voluntary or involuntary

Marianne A. Ferber
and
Jane Waldfogel

The October 1996 special issue of the *Monthly Labor Review* profiled workers in nontraditional work arrangements and analyzed their reasons for entering such employment.[1] Several articles in the same issue of the *Review* reported on the earnings and benefits of nonstandard workers: Steven Hipple and Jay Stewart found that contingent workers tend to earn less, and are less likely to have health insurance and pension benefits, than noncontingent workers, and that some alternative workers, such as self-employed men, earn more than traditional or standard workers, but are less likely to have health insurance and pension coverage;[2] and Donna Rothstein, using longitudinal data from the National Longitudinal Survey of Youth (NLSY), compared earnings on the current job with earnings on the previous job, for a select sample of workers who had been on their current job for no more than 3 years.[3] Interestingly, she found that, for the typical contingent worker in her sample, the current job represented a step *down* from the previous job, whereas for full-time, standard workers, the current job tended to represent a step *up* from the previous job.

These results, as well as some from earlier research,[4] raise a host of questions about the longer term consequences of nontraditional employment. For example, because workers engaged in such employment not only have shorter job tenures,[5] but also are more likely to be assigned to routine jobs, to receive less training (particularly important for workers without a college education) and fewer promotions, and to be laid off,[6] they may receive lower wages and benefits in the long run. Thus, to the extent that the problems associated with nontraditional work turn out to be more serious in the long run than in the short run, and to the extent that individuals are unaware that this is the case or have a short planning horizon, it may be that many of those who choose this type of employment voluntarily will eventually suffer serious deprivation as a result.[7] With the exception of a handful of studies on the wage growth of part-time workers,[8] there has been no research to date on these long-term effects. This article seeks to fill that gap.

The research to be presented uses the NLSY to investigate the long-term consequences of three types of nontraditional employment on individuals' subsequent earnings and benefits.[9] Building on what is already known about the contingent labor force, we investigate the following questions, which have not been addressed in the research to date: First, how does nontraditional employment (that is, one's ever having had a nontraditional job) affect subsequent earnings and benefits? Second, are the returns to nontraditional work experience (that is, the length of time one spends in nontraditional jobs) different from the returns to traditional work experience?

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And third, to what extent are estimates of the effects of nontraditional employment and nontraditional work experience biased by unobserved heterogeneity among workers? The results suggest that nontraditional employment does have long-term effects on these outcomes, at least insofar as we are able to observe this in a sample of young workers followed over 15 years in the NLSY. Moreover, most of the long-term effects of nontraditional employment and nontraditional work experience persist even after controlling for potential heterogeneity bias.

Data and methodology

The NLSY provides complete work histories with detailed information about respondents' past and present jobs over a 15-year span, 1979–93. The data are used to observe whether respondents are currently in nontraditional jobs, to track whether they have ever been in such jobs, and to follow those who switch to or from these jobs. The NLSY data allow us to compare the fortunes not only of workers currently in nontraditional employment with those of workers in traditional employment, but also of those who have ever been in nontraditional jobs with those who have not; the data also allow us to compare workers with varying lengths of nontraditional work experience. In addition, the longitudinal structure of the data is used to assess the effects of changes in employment type and employment experience on wage growth over time, in order to control for potential bias caused by unobserved heterogeneity.

The NLSY follows a nationally representative sample of young men and women aged 28 to 36 by 1993. With 1993 assumed to be the current year, information from the 1979–93 surveys (including retrospective information on the period 1975–78 contained in the 1979 survey) is used to track each individual's actual labor market experience, beginning with the year the person turned 18 (or the year he or she left high school if before age 18, but in no case earlier than age 16). Work experience is calculated in terms of actual time worked, expressed in years. Each year that the respondent worked at all is then categorized in terms of whether the individual worked part time, was self-employed, was a temporary worker, or performed traditional work. An individual is coded as working part time if his or her main job that year was less than 35 hours per week. Because there is reason to believe that working part time voluntarily is a very different matter than working part time involuntarily,[10] part-time employees are further divided into those who work part time voluntarily and those who do so involuntarily. An individual is coded as being self-employed if he or she so reports, and the category is further divided into those whose business is incorporated and those whose business is not. A worker is coded as temporary if he or she reports having worked on any job during the year that ended because the program under whose aegis the job fell was terminated or because the position was only temporary; however, because the reason the job ended is the only way to identify temporary jobs, those currently working on a temporary basis cannot be identified.[11] Any respondent who is classified as a part-time worker, self-employed, or a temporary worker is defined as engaged in nontraditional work.[12] If an individual is in none of these categories, he or she is defined as a traditional worker.

Multivariate analysis is used to investigate the effects of current and past nontraditional employment on current earnings and benefits. For earnings, ordinary least squares models that include controls for age, actual work experience, level of education, marital status, number of children, race, and ethnicity are utilized to estimate the effects of nontraditional employment on the natural logarithm of current hourly wages.[13] For benefits, probit models that include the same controls are used to estimate the effects of nontraditional employment on the receipt of health insurance and pension benefits; to facilitate interpretation of the results, the marginal effects (and their standard errors) from these probit models are reported in tables.

To determine whether nontraditional work experience and traditional work experience have differential returns, the earnings functions are reestimated, with experience broken out into part-time and full-time components. Prior research on this issue has provided mixed results, ranging from findings of basically zero returns to part-time experience[14] to returns that were significantly positive, albeit lower than to full-time experience.[15] A similar analysis is conducted of self-employment and non-self-employment experience.

The third issue examined is how nontraditional employment affects wage growth, as opposed to wage levels. This is important because, to the extent that there is unobserved heterogeneity (say, in ability or motivation) among those who enter traditional as opposed to nontraditional employment, cross-sectional estimates of the effects of nontraditional employment on wages would be biased. A wage growth model in which the dependent variable (the natural logarithm of hourly wages) and all the independent variables (age, education, and so on) are expressed as differences from their values for a previous year is used to control for this potential bias.[16]

Earnings and benefits of nontraditional workers

In the NLSY sample, 12 percent of the men and 20 percent of the women working in 1993 were in nontraditional employment. The types of employment they were in varied a great deal by gender, as shown in table 1. Fully 16 percent of women were in part-time work, and only 5.5 percent were self-employed, while among men, the most common form of

Table 1. Nontraditional employment, young men and women, 1993

[In percent]

Employment status	Men	Women
Current[1]		
Currently in nontraditional employment (part time, self-employed, or both)	11.95	19.76
Part time	3.78	16.07
Voluntary	.78	8.64
Involuntary	2.01	3.14
Reason undefined	.99	4.29
Self-employed	8.84	5.50
Incorporated	1.71	.66
Unincorporated	7.13	4.77
Reason undefined	.00	.07
Past[2]	**Men**	**Women**
Ever in nontraditional employment (part time, self-employed, or temporary)	79.04	84.91
Ever part time	53.56	72.82
Voluntary	21.61	34.63
Involuntary	24.09	29.44
Reason undefined	7.86	8.75
Ever self-employed	24.75	16.51
Incorporated	4.88	1.74
Unincorporated	18.94	13.66
Reason undefined	.93	1.11
Ever temporary	52.02	49.34
Mean years of work experience	11.28	10.52
Mean years of part-time work experience	.87	1.69
Voluntary	.41	.96
Involuntary	.26	.32
Undefined	.20	.41
Mean years of self-employment work experience	.72	.36
Incorporated	.11	.04
Unincorporated	.57	.29
Undefined	.04	.03

[1] N = 3,337 for men and 2,870 for women.
[2] N = 4,261 for men and 4,242 for women.

NOTE: Tabulated from the National Longitudinal Survey of Youth, 1979–93.

nontraditional employment was self-employment, which made up 9 percent of all male workers, while less than 4 percent were employed part time.[17] These point-in-time measures, however, greatly understate the prevalence of nontraditional employment over time. Only 21 percent of the men and 15 percent of the women in the sample had never worked in a nontraditional job. About half of both men and women had had a temporary job at some time in the past, and approximately half of the men and more than half of the women had worked part time at some time in the past, although the mean duration of their part-time experience was quite short. Just under 25 percent of the men and under 20 percent of the women had ever been self-employed; the mean amount of time spent in self-employment was also very short.

Differences in earnings and benefits between those who were working in nontraditional employment and those who were working in traditional employment in 1993, as well as between men and women, are presented in table 2. Among men, those who were self-employed had higher wages, although they were less likely to have benefits, than those in traditional employment, while those working part time had both lower wages and lower benefits. Among women, the patterns were similar, but the wage differentials were smaller.

Table 3 shows that in 1993 there were substantial differences in earnings and benefits between those who had been in nontraditional employment in the past and those who had not. Among men who were working, past temporary work was associated with slightly lower-than-average current wages and benefits, past part-time employment had little relationship to either wages or benefits, and past self-employment was associated with higher-than-average wages, but lower-than-average benefits. Among women, in contrast, past self-employment was associated with lower-than-average wages, while past temporary or part-time work was associated with higher-than-average wages and nearly average benefits. The small minority of women and men with entirely traditional work histories had, on average, extremely high benefit coverage rates, but lower wage rates, than those who had been in nontraditional employment. The table also indicates that those who were in nontraditional employment in the past were more likely to be in nontraditional employment in 1993.

Effects of nontraditional employment on wages and benefits

Table 4 displays models that estimate the effects of current nontraditional employment on wages and benefits of women and men after controlling for demographic and human-capital variables. The table shows that in 1993, men who were working part time, particularly those working part time voluntarily, had much lower hourly wages than men in traditional jobs, while wages for men who were self-employed were much higher, particularly for those in incorporated businesses. In contrast, both self-employed women and women who worked part time were paid less well than women in traditional jobs, although the average penalty for part-time work was less for women than for men. This finding is related to those of the next model, which show that women who were working part time involuntarily were paid much less than women in traditional jobs or women working part time voluntarily. Also, the penalty in terms of benefits on the job was less for those working part time voluntarily. These results confirm that, at least for women, there appear to be "better," as well as "worse," part-time jobs.[18] Still, in 1993, *all* forms of nontraditional employment for women and men were associated with lower benefits.

Table 5 shows that, for both men and women, having a nontraditional employment history was associated with lower

current wages and benefits, even after controlling for current employment type, with two exceptions: there were no significant effects on the wages of men or women who were self-employed and incorporated at some time in the past or on the wages of women who voluntarily worked part time in the past. Interestingly, the coefficients on past employment status do not change much with the addition of controls for current employment status, nor are the coefficients for current employment status in these models very different from those estimated without controlling for past employment status. This suggests that, in spite of the high correlation between past and present employment status, each of these has an independent effect on current wages and benefits.

Returns to nontraditional work experience

What are the effects on current wages of the amount of time spent in nontraditional employment, relative to time spent in traditional employment? This question is particularly important in regard to the NLSY sample, because the majority of its respondents have been in nontraditional employment, but the time they have spent in such employment varies a great deal. As shown in table 6, the return to part-time experience was basically zero for men, while for women, the return was about half as large as the return to non-part-time experience. The second model estimates the effects of voluntary and involuntary part-time experience separately and shows that for men, the return to both was basically zero. For women, in contrast, the return to voluntary part-time experience was strongly positive, while the return to involuntary part-time experience was negative. These patterns for men and women can also be seen in the third model, which adds the full set of current and historical nontraditional employment controls. The last column of table 6 displays the results regarding self-employment of analyses similar to those for part-time employment. For both men and women, there was a positive return to self-employment experience (although, as before, there was a penalty for women for having ever been self-employed at all), and the return to incorporated self-employment experience was even higher than the return to non-self-employment experience. These results suggest that the effects of long-term self-employment are likely to be more positive than the effects of a brief spell of self-employment.

Effects of changes in nontraditional employment on wage growth

To control for unobserved heterogeneity that might bias cross-sectional estimates, this section uses wage growth models to estimate the effects of changes in nontraditional employment and in nontraditional work experience on wage growth over time. Pooling data from 1984–93 yields a data set with 14,581 observations for men and 10,847 observations for women, which is utilized to estimate cross-sectional models for the pooled sample. This data set is also employed to estimate wage growth models in which the dependent variable (the natural logarithm of the hourly wage) and all the independent variables are defined as the change in the variable between the current year (which ranges from 1984 to 1993) and 5 years earlier (that is, from 1979 to 1988).[19] These models are then used to estimate the effects of changes in contemporaneous employment status and changes in nontraditional work experience on changes in wages, both with and without controls for employment history.

Pooled cross-sectional and wage growth estimates of the effects of nontraditional employment on current wages are shown in table 7. As anticipated, some of the coefficients on nontraditional employment—in particular, those involving part-time

Table 2. Wages and benefits, currently employed young men and women, 1993

Wage or benefit	All workers	Traditional	Part time	Self-employed
Men[1]				
Mean wage	$12.68	$12.46	$10.87	$16.20
Percent with:				
Health benefits	73.04	80.11	27.17	12.20
Pension	56.55	62.35	20.88	6.44
Women[2]				
Mean wage	10.50	10.61	10.02	11.05
Percent with:				
Health benefits	76.15	85.13	39.30	3.29
Pension	64.16	71.67	33.43	2.63

[1] N = 3,337 for all workers, 2,938 for traditional workers, 126 for part-time workers, and 295 for self-employed workers.

[2] N = 2,870 for all workers, 2,303 for traditional workers, 461 for part-time workers, and 158 for self-employed workers.

NOTE: Traditional workers are those who currently neither are working part time nor are self-employed. All wages are in 1993 dollars. The percentage with health benefits (percentage with a pension) reflects those whose employer provides health insurance (a pension) and does not include those who have coverage from other sources (for example, a spouse). By definition, the percentage with health benefits or a pension among those who are self-employed and unincorporated is zero.

Table 3. **Wages and benefits, currently employed young men and women, by past employment status, 1993**

Wage or benefit	All workers	Always traditional	Ever part time	Ever self-employed	Ever temporary
Men[1]					
Mean wage	$12.68	$12.35	$12.89	$13.27	$12.24
Percent:					
With health benefits	73.04	86.69	70.74	44.76	70.05
With pension	56.55	66.05	55.90	30.78	54.09
Part time	3.78	.00	7.09	6.41	4.72
Self-employed	8.84	.00	9.28	35.71	8.99
Women[2]					
Mean wage	10.50	9.91	10.69	9.82	10.65
Percent:					
With health benefits	76.15	89.20	72.23	41.41	75.94
With pension	64.16	74.76	61.75	32.39	64.17
Part time	16.06	.00	22.07	25.96	16.46
Self-employed	5.55	.00	6.23	33.33	10.86

[1] N = 3,337 for all workers, 709 for those who always have been traditional workers, 1,777 for those who have ever worked part time, 826 for those who have ever been self-employed, and 1,736 for those who have ever been temporary workers.

[2] N = 2,870 for all workers, 430 for those who always have been traditional workers, 2,090 for those who have ever worked part time, 479 for those who have ever been self-employed, and 1,416 for those who have ever been temporary workers.

NOTE: Workers classified as always traditional are those who have never worked part time, been self-employed, or been temporary workers.

nontraditional employment—change in the wage growth estimates, compared with those found in the cross-sectional models, indicating that unobserved heterogeneity does play a part. For men, significant penalties are associated with part-time work in both models, but the penalties are substantially lower in the wage growth model than in the cross-sectional one, suggesting that the cross-sectional estimate is biased downwards. For women, the penalty for switching to involuntary part-time work also is much less negative than the penalty for being in such work in the cross-sectional model, suggesting negative heterogeneity bias, but the penalty for moving to voluntary part-time work is more negative than the same penalty in the cross-sectional model, suggesting positive heterogeneity bias. Note that there are no strong positive or negative returns to self-employment, suggesting that the positive returns to self-employment for men (and the negative returns for women) seen in the single-year cross sections in tables 4 and 5 may reflect unobserved differences in wage-enhancing attributes such as motivation and ability.

In models that control for changes in the length of nontraditional work experience, also shown in table 7, the results for part-time employment are generally consistent across the wage growth and cross-sectional models (except that returns to experience are generally higher in the wage growth estimates). For men, both voluntary and involuntary part-time experience is worth less than full-time experience, while for women, voluntary part-time experience is worth at least as much as full-time experience, but involuntary part-time experience is worth essentially zero. The relative returns to self-employment experience also are fairly consistent across the wage growth and ordinary least squares models. On the other hand, in contrast to the earlier cross-sectional results, the wage growth models show no penalty for having performed temporary work in the past.

THIS ARTICLE HAS USED 15 YEARS OF DATA from the NLSY to examine the possible effects of nontraditional employment and nontraditional work experience over time. It also has examined the effects of changes in nontraditional employment on wage growth, to control for unobserved variation between those who are currently in, or ever have been in, nontraditional, as opposed to traditional, jobs.

The results reported here confirm that both men and women in nontraditional employment tend to have different earnings and benefits than those in traditional employment, whether or not other characteristics are controlled for. There is a strong tendency for part-time employment and self-employment to persist over time,[20] but in spite of this, past and present nontraditional employment have independent effects on earnings and benefits. Further, the results indicate that both men and women who are, or who ever have been, in any type of nontraditional employment are far less likely to have benefit coverage than the minority who always have had traditional jobs.

Among men, those currently self-employed (especially those in incorporated businesses) tend to do better than other workers, while among women, the opposite tends to be true. This finding is consistent with other evidence about the relative positions of self-employed men and self-employed women.[21] The greater negative impact on men than on women of currently working part time—particularly voluntarily—is consistent with the hypothesis that employers may be more

likely to judge men in part-time employment unfavorably because their careers do not conform to expectations. Second, the results of the wage growth models suggest that men who work part time voluntarily may have negative attributes (such as less ability or motivation) that are not measured in our data, while the opposite is true for women. Finally, it is entirely possible that low wages cause men to work fewer hours, rather than vice versa, while there is evidence to the contrary for women.[22]

More generally, the results from the wage growth models suggest that some of the effects of nontraditional employment are due to unobserved heterogeneity between nontraditional and traditional workers. For instance, such heterogeneity would explain all of the negative effects of temporary work and all of the positive effects of self-employment found in cross-sectional analyses, because we do not find these effects in the wage growth models. Importantly, however, this would not appear to be the case for the effects of part-time employment, which were only modestly attenuated. Thus, this article provides strong evidence that, over time, part-time work is associated with lower pay for both men and women, although part-time work experience does have some value for women, particularly when it is voluntary. Overall, the results reported suggest that the long-term, as well as the short-term, consequences of nontraditional work depend on both the type of work and the gender of the worker.

Table 4. Effects of current nontraditional employment on wages and benefits, 1993

Employment status	Logarithm of wage	Logarithm of wage	Health	Pension
Men				
Currently working part time	[1]–0.1615	...	....	....
	(.0410)	....	....	....
Voluntarily	....	[1]–.3273	[1]–.4025	[1]–.3325
	....	(.0881)	(.1123)	(.1015)
Involuntarily	....	[1]–.1458	[1]–.5077	[1]–.4070
	....	(.0556)	(.0689)	(.0607)
Currently self-employed	[1].1310	....	....	....
	(.0273)	....	....	....
Incorporated	....	[1].2736	[1]–.2103	[1]–.3341
	....	(.0596)	(.0697)	(.0556)
Unincorporated	....	[1].0969	....	....
	....	(.0301)	....	....
R^2	.2676	.2698	.0883	.0817
Number of observations	3,337	3,337	3,252	3,252
Women				
Currently working part time	[1]–.0469	....	....	....
	(.0223)	....	....	....
Voluntarily	....	.0115	[1]–.3527	[1]–.2984
	....	(.0289)	(.0408)	(.0403)
Involuntarily	....	[1]–.2165	[1]–.5335	[1]–.4193
	....	(.0464)	(.0579)	(.0579)
Currently self-employed	[1]–.0952	....	....	
	(.0352)			
Incorporated	....	[1]–.1993	[1]–.4577	[1]–.4145
	....	(.0977)	(.1258)	(.1135)
Unincorporated	....	[1]–.0911	....	....
	....	(.0375)	....	....
R^2	.3132	.3178	.1687	.1280
Number of observations	2,870	2,870	2,659	2,659

[1] Significant at 0.01 level.

NOTE: Equations yielding the natural logarithm of hourly wages are estimated using ordinary least squares. Health and pension equations are estimated using probits, with marginal effects reported in the table. All models include controls for age, years of actual work experience, level of education, marital status, number of children, race (black), and ethnicity (Hispanic). Models that distinguish between voluntary and involuntary part-time work (and between incorporated and unincorporated self-employment) include controls for part time undefined (and self-employed undefined). The category of currently self-employed and unincorporated drops out of the benefits models because, by definition, individuals in this category have no employer-provided benefits. The sample for the wage equations includes all individuals who were working in 1993 and had no missing wage or work history data. The sample for the health and retirement equations includes all individuals in the wage sample, minus the self-employed unincorporated and those missing health or retirement data. Standard errors are in parentheses.

Table 5. Effects of past nontraditional employment on wages and benefits, 1993

Employment status	Logarithm of wage	Logarithm of wage	Health	Pension
Men				
Ever worked part time:				
Voluntarily	[1]–0.0569	–0.0411	–0.0136	0.0223
	(.0229)	(.0230)	(.0256)	(.0280)
Involuntarily	[1]–.1100	[1]–.0994	[1]–.0468	–.0347
	(.0198)	(.0203)	(.0214)	(.0244)
Ever self-employed:				
Incorporated	[1].1121	.0090	[1]–.3980	[1]–.3691
	(.0361)	(.0442)	(.0496)	(.0395)
Unincorporated	–.0194	[1]–.0758	[1]–.4169	[1]–.3488
	(.0201)	(.0237)	(.0226)	(.0218)
Ever temporary	[1]–.0664	[1]–.0646	–.0305	–.0347
	(.0161)	(.0161)	(.0166)	(.0194)
Currently working part time:				
Voluntarily	....	[1]–.3128	[1]–.3901	[1]–.3261
	....	(.0883)	(.1239)	(.1074)
Involuntarily	....	–.0728	[1]–.4194	[1]–.3465
	....	(.0568)	(.0895)	(.0786)
Currently self-employed:				
Incorporated	....	[1].2540	.0391	–.0267
	....	(.0728)	(.0599)	(.0878)
Unincorporated	....	[1].1609	....	....
	....	(.0353)	....	....
R^2	.2735	.2819	.1990	.1450
Number of observations	3,337	3,337	3,252	3,252
Women				
Ever worked part time:				
Voluntarily	.0314	.0323	[1]–.0845	–.0449
	(.0216)	(.0226)	(.0262)	(.0283)
Involuntarily	[1]–.1180	[1]–.1050	[1]–.1106	[1]–.0648
	(.0212)	(.0221)	(.0264)	(.0279)
Ever self-employed:				
Incorporated	–.0781	.0056	[1]–.3193	[1]–.4194
	(.0603)	(.0763)	(.1052)	(.0843)
Unincorporated	[1]–.0881	–.0780	[1]–.3825	[1]–.3254
	(.0238)	(.0282)	(.0306)	(.0303)
Ever temporary	[1]–.0381	[1]–.0387	–.0001	–.0066
	(.0165)	(.0165)	(.0177)	(.0210)
Currently working part time:				
Voluntarily	....	.0076	[1]–.3086	[1]–2738
	....	(.0297)	(.0441)	(.0435)
Involuntarily	....	[1]–.1321	[1]–.4796	[1]–.3838
	....	(.0476)	(.0682)	(.0651)
Currently self-employed:				
Incorporated	....	–.2188	–.2158	–.0679
	....	(.1223)	(.1676)	(.1749)
Unincorporated	....	–.0324	....	....
	....	(.0441)	....	....
R^2	.3290	.3313	.2451	.1683
Number of observations	2,870	2,870	2,659	2,659

[1] Significant at 0.01 level.

NOTE: Equations yielding the natural logarithm of hourly wages are estimated using ordinary least squares. Health and pension equations are estimated using probits, with marginal effects reported in the table. All models also include controls for age, years of work experience, level of education, marital status, number of children, race (black), and ethnicity (Hispanic). Models that distinguish between voluntary and involuntary part-time work (and between incorporated and unincorporated self-employment) include controls for part time undefined (and self-employed undefined). The category of currently self-employed and unincorporated drops out of the benefits models because, by definition, individuals in this category have no employer-provided benefits. Standard errors are in parentheses.

Table 6. Effects of part-time and self-employment work experience on current wages, 1993

Experience or employment status	Logarithm of wage	Logarithm of wage	Logarithm of wage	Logarithm of wage
Men				
Experience:				
Full time	[1]0.0428	[1]0.0430	[1]0.0394	....
	(.0033)	(.0034)	(.0034)	....
Part time	−.0049			
	(.0068)			
Voluntary	....	−.0094	−.0141	....
	....	(.0100)	(.0118)	....
Involuntary	....	−.0154	.0062	....
	....	(.0125)	(.0173)	....
Non-self-employed	....	....	....	[1].0394
	....	....	....	(.0034)
Self-employed:				
Incorporated	....	....	....	[1].0832
	....	....	....	(.0177)
Unincorporated	....	....	....	.0054
	....	....	....	(.0071)
Employment status:				
Ever worked part time:				
Voluntary	....	....	.0258	−.0406
	....	....	(.0270)	(.0229)
Involuntary	....	....	−.0425	[1]−.0999
	....	....	(.0272)	(.0202)
Ever self-employed:				
Incorporated	....	....	.0002	−.0196
	....	....	(.0441)	(.0544)
Unincorporated	....	....	[1]−.0728	−.0219
	....	....	(.0236)	(.0262)
Ever temporary	....	....	[1]−.0600	[1]−.0661
	....	....	(.0162)	(.0161)
R^2	.2737	.2740	.2872	.2882
Observations	3,337	3,337	3,337	3,337
Women				
Experience:				
Full time	[1].0534	[1].0518	[1].0502	....
	(.0029)	(.0029)	(.0030)	....
Part time	[1].0262	....	....	....
	(.0047)	....	....	....
Voluntary	....	[1].0502	[1].0404	....
	....	(.0057)	(.0068)	....
Involuntary	....	[1]−.0473	−.0239	....
	....	(.0122)	(.0171)	....
Non-self-employed	....	....	....	[1].0457
	....	....	....	(.0030)
Self-employed:				
Incorporated	....	....	....	[1].1210
	....	....	....	(.0350)
Unincorporated	....	....	....	[1].0590
	....	....	....	(.0105)
Employment status:				
Ever worked part time:				
Voluntarily	....	....	[1].0654	.0306
	....	....	(.0241)	(.0223)
Involuntarily	....	....	.0019	[1]−.1052
	....	....	(.0288)	(.0221)
Ever self-employed:				
Incorporated	....	....	.0133	−.1123
	....	....	(.0755)	(.0926)
Unincorporated	....	....	[1]−.0691	[1]−.0900
	....	....	(.0280)	(.0317)
Ever temporary	....	....	−.0273	[1]−.0365
	....	....	(.0165)	(.0167)
R^2	.3247	.3386	.3443	.3318
Number of observations	2,870	2,870	2,870	2,870

[1] Significant at 0.01 level.

NOTE: All models include controls for age, experience, education, marital status, children, race (black), and ethnicity (Hispanic). Models also include controls for type of experience undefined and type of part-time experience undefined. Standard errors are in parentheses.

Table 7. Effects of changes in nontraditional employment and changes in nontraditional work experience on wage growth, 1979–93

Experience or employment status	Pooled ordinary least squares	Wage growth	Pooled ordinary least squares	Wage growth	Pooled ordinary least squares	Wage growth
Men						
Employment status:						
Part time:						
Voluntary	[1]–0.3126	[1]–0.2223	....	....	....	....
	(.0499)	(.0248)	....	....	....	....
Involuntary	[1]–.1609	[1]–.0628	....	....	....	....
	(.0429)	(.0242)	....	....	....	....
Self-employed:						
Incorporated	.1073	.0421	....	....	....	....
	(.0602)	(.0540)	....	....	....	....
Unincorporated	–.0008	.0383	....	....	....	....
	(.0362)	(.0316)	....	....	....	....
Experience:						
Full time	....	....	[1].0403	[1].0683	....	....
	....	....	(.0043)	(.0057)	....	....
Part time:						
Voluntary	....	....	–.0147	[1].0381	....	....
	....	....	(.0130)	(.0189)	....	....
Involuntary	....	....	.0022	.0261	....	....
	....	....	(.0263)	(.0265)	....	....
Non-self-employed	....	....	....	....	[1].0434	[1].0998
	....	....	....	....	(.0050)	(.0085)
Self-employed:						
Incorporated	....	....	....	....	[1].0679	[1].0973
	....	....	....	....	(.0165)	(.0269)
Unincorporated	....	....	....	....	.0145	[1].0720
	....	....	....	....	(.0094)	(.0113)
Ever temporary	....	....	[1]–.0762	.0145	[1]–.0800	.0127
	....	....	(.0168)	(.0181)	(.0168)	(.0182)
R^2	.2066	.1019	.2284	.1053	.2252	.1065
Number of observations	14,581	14,581	14,581	14,581	14,581	14,581
Women						
Employment status:						
Part time:						
Voluntary	–.0592	[1]–.0999	....	....	....	....
	(.0309)	(.0186)	....	....	....	....
Involuntary	[1]–.2303	[1]–.0840	....	....	....	....
	(.0369)	(.0264)	....	....	....	....
Self-employed:						
Incorporated	.0719	.1117	....	....	....	....
	(.1035)	(.1239)	....	....	....	....
Unincorporated	–.0246	.0735	....	....	....	....
	(.0731)	(.0627)	....	....	....	....
Experience:						
Full time	....	....	[1].0492	[1].0471	....	....
	....	....	(.0043)	(.0054)	....	....
Part time:						
Voluntary	....	....	[1]–.0466	[1].0523	....	....
	....	....	(.0101)	(.0101)	....	....
Involuntary	....	....	–.0136	.0071	....	....
	....	....	(.0200)	(.0238)	....	....
Non-self-employed	....	....	....	....	[1].0559	[1].0699
	....	....	....	....	(.0047)	(.0073)
Self-employed:						
Incorporated	....	....	....	....	.0090	.0611
	....	....	....	....	(.0422)	(.0404)
Unincorporated	....	....	....	....	[1].0712	[1].0634
	....	....	....	....	(.0172)	(.0149)
Ever temporary	....	....	–.0293	–.0211	–.0259	–.0191
	....	....	(.0176)	(.0203)	(.0173)	(.0203)
R^2	.2433	.1005	.2637	.1056	.2685	.1079
Number of observations	10,847	10,847	10,847	10,847	10,847	10,847

[1] Significant at 0.01 level.

NOTE: All models include controls for age, education, marital status (including married and previously married), number of children, and year; ordinary least squares models control for race and ethnicity as well. The second and third pair of models also control for whether the individual ever worked part time or was self-employed. The pooled ordinary least squares models include observations from 1984 to 1993. In the wage growth models, all variables are expressed as the difference between the value in the current year (ranging from 1984 to 1993) and the value 5 years earlier (ranging from 1979 to 1988). All models are weighted (using the inverse probability of appearing in the sample) to control for the unbalanced panel, and the standard errors are corrected for cluster sampling. Standard errors are in parentheses.

Footnotes

ACKNOWLEDGMENT: We thank Rebecca Blank, Françoise Carré, Pam Joshi, and Chris Tilly for their very helpful suggestions. Andrew Lenney provided excellent research assistance.

[1] For profiles of these workers, see Anne E. Polivka, "Contingent and alternative work arrangements, defined," pp. 3–9, and "A profile of contingent workers," pp. 10–21; and Sharon R. Cohany, "Workers in alternative employment arrangements," pp. 31–45. For analyses of their reasons for entering into such arrangements, see Polivka, "Into contingent and alternative employment: by choice?" pp. 55–74; and Donna S. Rothstein, "Entry into and consequences of nonstandard work arrangements," pp. 75–82.

[2] Steven Hipple and Jay Stewart, "Earnings and benefits of contingent and noncontingent workers," pp. 22–30; and Hipple and Stewart, "Earnings and benefits of workers in alternative work arrangements," pp. 46–54.

[3] Rothstein, "Nonstandard work arrangements."

[4] See, for example, Rebecca M. Blank, "Contingent Work in a Changing Labor Market," in Richard Freeman and Peter Gottschalk, eds., *Generating Jobs* (New York, Russell Sage Foundation, 1998), pp. 258–94.

[5] Rothstein, "Nonstandard work arrangements."

[6] See Kathleen Barker, "Changing Assumptions and Contingent Solutions: The Costs and Benefits of Women Working Full- and Part-Time," *Sex Roles*, January 1993, pp. 47–71; and Chris Tilly, *Half a Job: Bad and Good Part-Time Jobs in a Changing Labor Market* (Philadelphia, Temple University Press, 1996).

[7] For instance, young people in alternative work arrangements may not be unduly concerned about their wages rising less in later years or that they are less likely to have health insurance or pension benefits. Nor will many of them look ahead to the time when they may have greater problems finding new jobs when they are older, not only because of age discrimination in hiring, but because their discontinuous employment history is likely to be viewed unfavorably by potential employers. Similarly, single heads of families often have to take nonstandard jobs when they have young children, but will find it very difficult to manage with low earnings and meager benefits when they are faced with education expenses, occasional medical emergencies, and, finally, retirement without adequate provisions for any of these eventualities.

[8] Rebecca M. Blank, "Introduction," in Rebecca M. Blank, ed., *Social Protection versus Economic Flexibility* (Chicago, University of Chicago Press), 1994, pp. 1–19; and Jerry A. Jacobs and Zhenchao Qian, "The Duration of Employment in Part-Time Jobs," unpublished paper, University of Pennsylvania, May 1994, explored dynamic labor supply choices between part-time and full-time work. Ethel Jones and James Long, "Part-Week Work and Human Capital Investment by Married Women," *Journal of Human Resources*, vol. 14, no. 4, 1979, pp. 563–78; and Mary Corcoran, Greg Duncan, and Michael Ponza, "A Longitudinal Analysis of White Women's Wages," *Journal of Human Resources*, winter 1983, pp. 497–520, showed that, at least in the short run, part-time work is related to lower wage growth.

[9] We use the term *nontraditional* here to avoid confusion, because the workers we are looking at differ somewhat from the workers included in the BLS definition of nonstandard employment.

[10] R. Leppel and S. H. Clain, "Determinants of Voluntary and Involuntary Part-Time Employment," *Eastern Economic Journal*, winter 1993, pp. 59–70.

[11] Obviously, this definition of a temporary worker is not ideal, but it is the best that can be done with the NLSY data. One problem is that the question is asked after the worker has left the job, so biased information may result if people use this category to describe jobs that ended for reasons other than that the position was temporary (such as involuntary termination). In that case, we might overestimate the number of people who have held temporary jobs. We might also overestimate the negative effects of such employment; however, in this regard, it is reassuring to note that we in fact find no long-run negative effect of temporary employment once we control for unobserved heterogeneity. A second problem is that the NLSY question may yield information that is at odds with how one customarily thinks of temporary work. A person may report that a job held for a number of years was temporary, whereas typically, temporary jobs are short term. Still, there is in fact no agreed-upon time limit for a temporary job, and thus, the implicit definition provided by the worker is likely to be as valid as any other. A third problem is that the job may not in fact have been temporary, but may have been viewed as temporary by the jobholder. It would be preferable to distinguish these two situations, as we do between voluntary and involuntary part-time work, but the data do not allow us to do this. Note, however, that in both these instances, the job was in fact temporary, just as both voluntary and involuntary part-timers are counted as part-time workers.

[12] It is important to note that the nontraditional categories are not mutually exclusive. (That is, an individual may belong to more than one category.)

[13] More formally, the model takes the general form $lw_i = \beta_0 + \beta_1 age_i + \beta_2 exp_i + \beta_3 ed1_i + \beta_4 ed2_i + \beta_5 ed3_i + \beta_6 mar_i + \beta_7 child_i + \beta_8 PT_i + \beta_9 SE_i + \mu_i$, where lw = natural logarithm of hourly wage, age = age in years, exp = actual work experience in years, ed1 = college degree or higher, ed2 = some college, ed3 = high school degree only (ed4, less than high school, is the omitted category), mar = married, child = number of children, PT = dummy variable for part time, SE = dummy variable for self-employed, and μ_i = a disturbance term that is assumed to be independent and identically distributed. All wages are in 1993 dollars. Extreme values (wages below 40 percent of the minimum wage and wages above $100 per hour in 1993 dollars, together representing less than 1 percent of the sample) are excluded.

[14] See Jones and Long, "Part-Week Work"; and Corcoran, Duncan, and Ponza, "Longitudinal Analysis."

[15] See Jane Waldfogel, "The Effect of Children on Women's Wages," *American Sociological Review*, vol. 62, 1997, pp. 209–17.

[16] More formally, this wage growth or difference model takes the general form $\Delta lw_i = \beta_0 + \beta_1 \Delta age_i + \beta_2 \Delta exp_i + \beta_3 \Delta ed1_i + \beta_4 \Delta ed2_i + \beta_5 \Delta ed3_i + \beta_6 \Delta mar_i + \beta_7 \Delta child_i + \beta_8 \Delta PT_i + \beta_9 \Delta SE_i + \Delta\alpha_i + \Delta\mu_i$, where the variables are defined as in footnote 13 and where α_i = a fixed effect that may be correlated with one or more independent variables and μ_i = a disturbance term that is assumed to be independent and identically distributed. Because individuals contribute multiple observations and different numbers of observations, the standard errors are corrected for clustered sampling and weighted regressions are used. Other types of fixed-effect models could be estimated, but this model is intuitively the most straightforward, because the dependent variable is simply the change in wage from one period to the next.

[17] These proportions are consistent with those found in other research. For example, Thomas Nardone, "Part-Time Employment: Reasons, Demographics, and Trends," *Journal of Labor Research*, summer 1995, pp. 275–92, reports that 4.6 percent of men and 19.2 percent of women aged 25 to 54 were employed part time in 1993, and John E. Bregger, "Measuring self-employment in the United States," *Monthly Labor Review*, January–February 1996, pp. 3–9, finds that 7 percent of men and 5 percent of women aged 25 to 34 were self-employed in 1994.

[18] See Rebecca M. Blank, "Understanding Part-Time Work," in Laurie Bassi and David Crawford, eds., *Research in Labor Economics*, vol. 11 (Greenwich, CT, JAI Press, 1990), pp. 137–58; and Tilly, *Half a Job*.

[19] Models estimated with a 1-year and a 3-year interval produce similar results.

[20] Marianne A. Ferber and Jane Waldfogel, *The "Contingent" Labor Force: Blessing and/or Curse*, Radcliffe Public Policy Institute paper, 1996.

[21] See, for instance, Theresa Devine, "Characteristics of self-employed women in the United States," *Monthly Labor Review*, March 1994, pp. 20–24.

[22] See Alice Nakamura and Masao Nakamura, "Part-Time and Full-Time Work Behavior of Married Women," *Canadian Journal of Economics*, May 1983, pp. 229–57. These researchers found that Canadian wives with higher potential wage rates were more likely to be employed, but that, among women who were employed, those who were paid more per hour worked fewer hours.

Collective bargaining agreements: safety and health provisions

Union cooperation on matters of safety and health, the establishment of a joint local labor-management safety and health committee, protective clothing, and safety "dos and don'ts" are the most frequently appearing subjects in 744 private-sector collective bargaining agreements expiring between August 1997 and July 2007

George R. Gray, Donald W. Myers, and Phyllis S. Myers

Safety and health issues are a major concern today for both employers and union representatives. The cost of workers' compensation and health care benefits, the long-tailed effect of exposure to health hazards, the premature loss of future years of employment, and the prevention of human suffering are some of the reasons for this concern. Collective bargaining negotiations are potential arenas for the exploration, discussion, and formalization of philosophies, intentions, and procedures regarding safety and health matters. However, the actual extent to which these matters are examined in contemporary collective bargaining agreements is unknown, Accordingly, this article investigates the prevalence and types of safety and health provisions included in the current collective bargaining agreements of large private-sector U.S. firms.

Previous research

A 1976 study examined the prevalence of 26 safety- and health-related subjects in 1,724 major collective bargaining agreements covering 1,000 or more workers and maintained in a file by the Bureau of Labor Statistics.[1] The contracts covered 7.9 million workers, or about one-half of all workers who were included in collective bargaining agreements in the industries studied. The contracts were in effect during mid-1974, with most of them remaining in effect in 1975 and beyond.

The safety and health subjects analyzed in the 1976 study were (1) general policy statements; (2) union-management cooperation; (3) dissemination of safety rules and procedures; (4) dissemination of information to unions; (5) safety and health committees; (6) employer compliance with safety requirements; (7) employee compliance with safety requirements; (8) employee discipline for noncompliance with safety rules; (9) safety and health inspections; (10) work performed under unsafe conditions; (11) final authority in safety disputes; (12) safety equipment; (13) safe tools, equipment, and transportation; (14) crew size and working in isolation; (15) types of safety protection; (16) protection against noxious gases or dust; (17) sanitation, housekeeping, and personal hygiene; (18) provisions for physical examinations; (19) alcohol and drugs; (20) accident procedures; (21) first aid and hospital facilities; (22) personnel assigned to treat injuries; (23) compensation for job-related injuries (excluding workers' compensation), vacation, holiday, and other payments not available

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to, or in addition to, those available to employees with nonoccupational disabilities; (24) leave and transfer rights of disabled workers; and (25) pay differentials for hazardous duty.

In addition to these 25 subjects, some ancillary subjects related to them were also examined in the study. Information on the ancillary subjects was somewhat more detailed than that on the broader subjects to which they were related. For example, ancillary subjects studied in the area of safety and health committees were eligibility for committee membership, the term of service on the committee, the frequency of committee meetings, and compensation of committee members.

Of the 1,724 agreements that were reviewed, 1,607, or 93 percent, contained one or more of the 26 safety and health subjects that appeared in the 1976 study. The most prevalent subject in the agreements was compensation for injuries, which was included in 60 percent of the contracts. The other subjects appearing most frequently in the agreements were safety equipment (49 percent); employee compliance with safety requirements (46 percent); union-management cooperation (43 percent); sanitation, housekeeping, and personal hygiene (40 percent); and employer compliance with safety requirements (33 percent).

Table 1. Employees covered by private-sector collective bargaining contracts, with safety and health clauses, expiring between August 1997 and July 2007, by industry

Industry group	Workers	Contracts
All industries	1,864,847	433
Mining	31,185	6
Construction		
Building construction.	121,380	47
Heavy construction.	140,360	36
Special trade construction	82,730	43
Manufacturing		
Food and kindred products	33,950	18
Textile mill products	5,100	2
Apparel	53,720	7
Lumber and wood products	7,200	4
Paper	26,340	23
Printing.	7,558	4
Chemicals	7,990	7
Rubber	9,215	6
Stone, clay, and glass	16,100	8
Primary metal	99,749	29
Fabricated metal	14,743	6
Industrial machinery	32,324	13
Electronic machinery	103,770	22
Transportation equipment	471,372	33
Measuring instruments	4,850	2
Nonmanufacturing		
Motor freight transportation	53,585	5
Communications	154,329	18
Electric, gas, and sanitary services	64,787	23
Wholesale trade	1,000	1
Food stores	134,344	27
Eating and drinking places	4,000	2
Miscellaneous retail	1,000	1
Insurance carriers	1,200	1
Hotels and other lodging	17,300	3
Business services	10,300	4
Automotive repair	1,000	1
Motion pictures	59,681	4
Health services	86,960	24
Legal services	975	1
Educational services	4,750	2

Safety and health environment today

The occupational safety and health environment has changed considerably during the more than 20 years that have elapsed since the 1976 study. A major change in the environment was prompted by the Hazard Communication Standard issued in 1983 by the Occupational Safety and Health Administration (OSHA). This standard requires employers to label hazardous chemicals, prepare material safety data sheets, and train employees on how to handle chemicals and what to do in the event of accidental spillage. Another major change was a growing awareness on the part of both employers and union representatives of the dangers in the workplace to workers' health, particularly from biological, ergonomic, and chemical hazards. Hepatitis and acquired immunodeficiency syndrome (AIDS) are relatively recent diseases that employers did not face in the past. In the last 10 years, the incidence of occupational ergonomic disease—particularly, cumulative trauma—has risen, fundamentally changing the design of workplaces, the methods of accomplishing work, and the selection and training of workers.

Other changes include increased outsourcing of work to contractors, greater litigiousness of workers and attorneys with regard to occupational injuries and illnesses, and a growing awareness of the value of preventive measures, including employee wellness programs, in maintaining a healthy work force. Also, since 1976, unions have assumed a more prominent role in protecting the health and safety of workers. The changing nature of the internal and external environmental factors affecting worker occupational safety and health warrants a reexamination of union and management efforts to address the topic in the collective bargaining arena.

The sample

The database utilized for the study presented in this article is a file of approximately 1,200 private-sector collective bargaining agreements maintained by the Bureau of Labor Statistics. This file includes virtually all agreements in the private sector covering 1,000 workers or more. To ascertain a current view of how safety and health issues are being formalized in collective bargaining agreements, only contracts expiring between August 1997 and July 2007 (the latest expiration date in the file) were included in the study. Application of this criterion resulted in a

sample of 744 agreements. The firms in the sample represent large employers, as measured by the number of employees covered by the respective labor agreements. The number covered by the 744 agreements ranges from 650 to 215,000.

Prevalence and types of provisions

Of the 744 agreements reviewed, 433 (or 58 percent) contain one or more separate safety and health clauses. Table 1 lists the workers covered and the number of contracts with safety and health provisions, by industry. The workers represented by the 433 agreements with safety and health provisions constitute 18 percent of all workers covered by the 744 union agreements.

Forty-three different safety and health provisions were identified in the labor contracts analyzed. Nine other ancillary subjects involving labor-management safety and health committees also were analyzed. To facilitate discussion, these 52 provisions are grouped into five distinct categories: occupational health clauses; ergonomic-related clauses; clauses related to union-management relations as they pertain to safety and health issues; individual-employee safety-related clauses; and clauses related to safety and health technology, maintenance, or operation. In addition, an "other" category is included consisting of 10 subjects that appeared less frequently than the 52 provisions discussed in the first five categories.

As shown in table 1, the number of contracts with safety and health provisions and the numbers of workers covered by the contracts vary considerably among industries. Two types of analyses were conducted to facilitate an understanding of the interactions among the industries, number of contracts, provisions, and workers covered. First, with the exception of the "other" category, the number of contracts, both overall and by industry, were analyzed in terms of the aforementioned specific categories of safety and health clauses. In addition, also with the exception of the "other" category, a separate analysis is reported for the number of workers covered by the 52 provisions.

Occupational health

The study included an analysis of 10 types of clauses relating to occupational health. In addition, four ancillary clauses related to local labor-management safety and health committee involvement in occupational health issues, as well as three ancillary clauses related to national labor-management safety and health committees on the subject, were analyzed. As shown in table 2, these provisions address, among other issues, concerns with air hygiene, chemical hygiene, the disclosure of hazardous information to workers, the protection of the work environment, fitness centers, using employee teams to communicate with workers about workplace hazards, health promotion programs, local and national labor-management safety and health committees, and noise abatement.

Table 2. Incidence of occupational health clauses in private-sector collective bargaining contracts expiring between August 1997 and July 2007

Provision	Number of contracts	Percent of contracts
All contracts with safety and health provisions	433	100
Contracts with provisions for		
Air hygiene	42	9
Chemical hygiene	55	13
Disclosure of hazardous information	48	11
The environment	29	7
Fitness centers	8	2
A hazard communication team	28	6
A health promotion program	28	6
A local labor-management safety and health committee	219	50
To study chemical and air conditions	35	8
To study industrial hygiene	50	11
To study noise abatement programs	25	6
To review hazard communication programs	96	22
A national labor-management safety and health committee	56	13
To evaluate employee health exposures	37	8
To evaluate protective clothing	17	4
To study air quality	12	3
Noise abatement	42	10

Several of the occupational clauses were in at least 10 percent of the labor contracts. The most prevalent clause in the area of occupational health was a provision for local labor-management safety and health committees to review hazard communication programs. Other clauses appearing frequently had to do with chemical hygiene (13 percent of the agreements), the disclosure of hazardous information (11 percent), involvement on the part of local labor-management safety and health committees in conducting industrial hygiene studies (11 percent), and air hygiene (9 percent). Wellness subjects, such as health promotion programs (6 percent) and fitness centers (2 percent), appeared less frequently.

There are some differences among the agreements in the language used to describe the provisions displayed in table 2. The following summaries illustrate the variation in focus, depth, and breadth in which these issues are treated in the agreements.

Air and chemical hygiene. As just noted, 9 percent and 13 percent of the agreements with safety and health provisions cover air and chemical hygiene, respectively. Provisions citing air quality involve the employer's agreeing to provide the union with the names of all hazardous materials, including aerosols, that are present at the work site and that may contaminate or otherwise adversely affect the air.

Provisions pertaining to chemical hygiene contain requirements that employers provide detailed information about any chemicals in the workplace, including the names and/or trade

names of the chemicals, the dangers of working with the chemicals, threshold limits, and other factors. Many of these agreements include mandates such as employee training in the proper handling of such materials, protective equipment that should be used, and how to avoid exposure. Some agreements make specific reference to exposure to asbestos. Most of the agreements with provisions pertaining to chemical hygiene also require that employers inform union safety and health committee members about testing or the results of studies on chemicals used at the work site. In some instances, the release of information or the potential disclosure of trade secrets may adversely affect the business. To protect against this eventuality, some agreements require both union and management representatives on safety and health committees to sign agreements prohibiting the release of confidential information. Most of the agreements with clauses on air and chemical hygiene also have clauses involving communication about other types of hazards.

Disclosure of hazardous information. Eleven percent of the agreements with safety and health provisions require employers to disclose any hazardous information or unsafe conditions found during inspections by government officials. This requirement includes maintaining records on radiation exposure and informing employees of the amounts they have been exposed to over specific periods.

Environment. Provisions involving the work environment include both internal and external conditions. These provisions are found in 7 percent of the agreements with safety and health provisions. Internal conditions include provisions regarding the environmental air temperature, a clean and orderly workplace, and procedures for cleaning spills. External conditions include provisions regarding the protection of employees from inclement weather, tornadoes, and winter climates.

All the agreements with provisions involving the protection of employees from environmental conditions also have requirements for providing employees with protective clothing or equipment. Clauses on equipment, clothing, and related matters were tallied separately and are included in the category of *employee safety* clauses.

Fitness centers. Only 2 percent of the agreements with safety and health provisions have clauses referring to fitness centers. Typically, these clauses involve employer commitments to provide onsite fitness centers for employee use.

Hazard communication team. Six percent of the agreements with safety and health provisions establish hazard communication teams. These teams are composed of union members and function at the local level in firms large enough to have multiplant operations. The teams, which operate independently of local safety and health committees, vary in how they address hazard communication responsibilities. In some agreements, the team's work involves participating with management in complying with communications requirements issued by OSHA. In other agreements, the team has a much broader charter that encompasses *all* occupational hazards, including reviewing any adverse effects resulting from changes in operating conditions and communicating with employees about such effects.

Health promotion program. Six percent of the agreements with safety and health provisions have programs for health promotion. These programs focus on various health issues, such as the dangers of smoking or other tobacco use, smoking cessation, diet, cholesterol in the blood, obesity, exercise, and other lifestyle factors, such as the prevention of HIV infection. In some agreements, various instruments—for example, questionnaires on a person's lifestyle—are advocated for employee use in establishing baseline information and monitoring trends.

Local labor-management safety and health committee. Occupational health issues constitute a significant portion of the tasks assigned to safety and health committees. About 50 percent of the agreements with safety and health provisions authorize such committees. The committees study chemical and air conditions (8 percent of the contracts with safety and health provisions), conduct industrial hygiene surveys (11 percent of the contracts), study noise abatement programs (6 percent), and review hazard communication programs (22 percent), such as the procedures for preparing and disseminating material safety data sheets, training employees about hazardous chemicals, handling and using such chemicals, and dealing with accidental spillage or exposure.

National labor-management safety and health committee. Fifty-six agreements, or about 13 percent of all agreements with safety and health provisions, authorize national safety and health committees. These committees have various functions involving occupational health that are spelled out in the agreements. For example, 37, or 66 percent, of the 56 committees are responsible for evaluating employee exposures to health hazards; 17, or 30 percent, of the committees are charged with evaluating protective clothing; and about 21 percent of the 56 national committees are responsible for studying air quality.

Noise abatement. Ten percent of the agreements with safety and health provisions have clauses dealing with the prevention of noise and the protection of employees who are unavoidably exposed to excessive levels of noise. These clauses address conducting auditory studies of employees, investi-

gating areas where excessive noise occurs, reviewing protective equipment to prevent hearing loss, and studying the noise levels of new equipment.

Industry variations. Table 3 displays the frequency of contract clauses having to do with occupational health and the numbers of employees covered by each clause, by industry. As shown in the table, few of the contracts in the mining industry have any occupational health clauses. Furthermore, none of the five clauses in mining industry agreements covers more than 8 percent of the workers in those firms that have at least one safety and health provision. Occupational health clauses in construction industry agreements are confined primarily to chemical hygiene and the disclosure of hazardous information; only the contracts in special trade construction contain provisions on any other subject of occupational health.

The manufacturing industry has the largest number of contracts with occupational health clauses of all types. The primary metal, transportation equipment, paper, rubber, and industrial machinery sectors account for the bulk of these clauses. Transportation equipment manufacturing makes up the largest portion of workers covered. Perhaps somewhat surprising, none of the agreements in the chemical manufacturing industry has provisions for air hygiene, chemical hygiene, disclosure of hazardous information, or noise abatement. Furthermore, none of the agreements in the chemical manufacturing industry that provide for local labor-management safety and health committees has provisions assigning the committees responsibility to study chemical and air conditions or conduct industrial hygiene studies. Similarly, none of the agreements in the chemical manufacturing industry has provisions assigning responsibility to the committees to evaluate employee health hazard exposures, evaluate protective clothing, or study air quality.

With the exception of motor freight transportation, communications, and electric, gas, and sanitary services, virtually none of the contracts in the nonmanufacturing industries has occupational health provisions. Somewhat surprisingly, none of the agreements in the health service industry has provisions for air hygiene, environmental protection, hazard communication, and health promotion programs. By contrast, 18 of the agreements in the health service industry have provisions for local labor-management safety and health committees. As shown in table 3, however, none of these agreements has provisions assigning the local committees any responsibility for studying chemical and air conditions, conducting industrial hygiene studies, or reviewing hazard communication programs. These omissions are conspicuous, given the chemical, biological, and physical (such as from x-ray technology) health hazards that exist for health care workers.

In the area of occupational health, the largest number of workers, 541,000, or 29 percent of all the workers in the 433 firms, are covered by agreements with chemical hygiene provisions. The other provisions with the most extensive coverage for workers in the area of occupational health are those dealing with air hygiene (467,000 workers), noise abatement (466,000), and environmental protection (458,000). In addition, 456,000 workers are covered by agreements with provisions for local labor-management safety and health committees to study chemical and air conditions.

Ergonomics

The study included an analysis of five types of clauses relating to occupational health. In addition, two ancillary clauses pertained to the involvement of local labor-management safety and health committees in ergonomic health issues. As shown in table 4, these provisions address cumulative trauma hazards, joint labor-management ergonomic committees, local labor-management safety and health committees, union safety representation on ergonomic issues, and workstation design. The ancillary issues for those agreements with local labor-management safety and health committees were committee involvement in conducting ergonomic evaluations or studies and committee participation in the review of new technology or facilities for ergonomic compliance.

With the exception of local labor-management committee participation in the two ancillary ergonomic issues, the incidence of ergonomic provisions in those agreements containing any safety and health provisions is remarkably low. Only in 23 percent of the agreements are the committees involved in conducting ergonomic evaluations or studies. Eight percent of the agreements have provisions for the committees to review new technology or facilities for ergonomic compliance. In addition, 23 agreements, or 5 percent of all the health- and safety-related agreements, refer to special joint labor-management ergonomic committees. Just 2 percent of the agreements contain provisions to either identify cumulative trauma hazards or authorize union safety representation on ergonomic issues. Fewer than 1 percent of the agreements have provisions specifically addressing workstation design. The lone offsetting factor is the rather extensive involvement of union representation in provisions addressing ergonomic issues. Somewhat surprising is the dearth of other types of provisions addressing ergonomic health hazards, particularly cumulative trauma disorders, as these types of illnesses result in an average of 30 days away from work, the largest number of any disabling condition.[2]

Cumulative trauma hazards. As just noted, only 10, or 2 percent, of the agreements with safety and health provisions contain any clauses that address the currently important issue of cumulative trauma hazards, which are also sometimes referred to as repetitive motion injuries. Four of the agree-

Table 3. Occupational health clauses in private-sector collective bargaining contracts expiring between August 1997 and July 2007, by industry

[Workers in thousands]

Industry group	Air hygiene		Chemical hygiene		Disclosure of hazardous information		Environment		Fitness centers		Hazard communication team		Health promotion program		Noise abatement	
	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers
All industries	42	467.3	55	541.1	48	323.1	29	458.2	8	229.5	28	272.6	28	430.6	42	466.2
Mining	–	–	2	2.6	1	1.8	–	–	–	–	–	–	–	–	1	1.8
Construction																
Building construction	–	–	4	18.5	3	27.7	–	–	–	–	–	–	–	–	–	–
Heavy construction	–	–	4	6.4	2	4.5	–	–	–	–	–	–	–	–	–	–
Special trade construction	1	1.5	8	11.3	1	2.7	–	–	–	–	1	1.5	–	–	1	.9
Manufacturing																
Food and kindred products	–	–	1	1.8	2	3.5	–	–	1	2.0	–	–	1	2.0	–	–
Textile mill products	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Apparel	–	–	–	–	–	–	–	–	–	–	–	–	1	6.2	–	–
Lumber and wood products	1	2.2	1	2.2	1	2.2	1	2.2	–	–	–	–	–	–	1	2.2
Paper	1	.6	1	.6	1	.9	1	.6	–	–	–	–	–	–	1	.6
Printing	–	–	–	–	1	2.0	–	–	–	–	1	2.0	–	–	–	–
Chemicals	–	–	–	–	–	–	–	–	1	1.8	–	–	–	–	–	–
Rubber	3	4.9	3	5.1	1	2.5	1	2.5	–	–	2	3.9	2	3.9	3	4.9
Stone, clay, and glass	4	5.5	2	6.0	–	–	–	–	–	–	–	–	–	–	4	5.5
Primary metal	14	72.1	14	69.7	11	48.0	13	64.7	2	5.3	9	52.4	12	38.4	14	69.3
Fabricated metal	–	–	1	1.2	–	–	–	–	2	2.2	1	1.0	2	2.2	–	–
Industrial machinery	7	21.8	2	13.5	1	2.8	3	6.3	–	–	3	5.7	1	2.8	6	20.5
Electronic machinery	1	22.0	2	23.4	1	22.0	1	22.0	–	–	2	25.2	1	22.0	2	23.4
Transportation equipment	9	335.2	9	377.1	7	128.6	5	331.7	2	218.2	6	154.1	5	332.8	9	336.8
Measuring instruments	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing																
Motor freight transportation	–	–	–	–	3	35.5	2	25.5	–	–	2	25.5	1	10.0	–	–
Communications	–	–	–	–	1	.8	–	–	–	–	–	–	2	10.2	–	–
Electric, gas, and sanitary services	1	1.2	–	–	4	10.5	1	1.3	–	–	1	1.2	–	–	–	–
Wholesale trade	–	–	–	–	–	–	1	1.2	–	–	–	–	–	–	–	–
Food stores	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Eating and drinking places	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Miscellaneous retail	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Insurance carriers	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Hotels and other lodging	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Business services	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Automotive repair	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Motion pictures	–	–	–	–	1	11.0	–	–	–	–	–	–	–	–	–	–
Health services	–	–	1	1.3	5	12.3	–	–	–	–	–	–	–	–	–	–
Legal services	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Educational services	–	–	–	–	1	3.5	–	–	–	–	–	–	–	–	–	–

Table 3. Continued—Occupational health clauses in private-sector collective bargaining contracts expiring between August 1997 and July 2007, by industry

[Workers in thousands]

Industry group	Local safety and health committee to—						National safety and health committee to—							
	Study chemical and air conditions		Conduct industrial hygiene studies		Study noise abatement programs		Review hazard communication program		Evaluate employee exposures to health hazards		Evaluate protective clothing		Study air quality	
	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers
All industries	35	456.9	50	286.9	25	423.3	96	399.2	37	407.1	17	232.4	12	379.8
Mining	1	1.6	–	–	–	–	1	1.6	–	–	–	–	–	–
Construction														
Building construction	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Heavy construction	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Special trade construction	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Manufacturing														
Food and kindred products	–	–	3	5.9	1	1.5	6	10.2	1	1.1	1	1.1	–	–
Textile mill products	–	–	2	5.1	–	–	–	–	1	1.1	–	–	–	–
Apparel	–	–	1	6.2	–	–	2	8.4	2	41.1	–	–	–	–
Lumber and wood products	1	2.2	3	6.2	–	–	4	7.2	–	–	–	–	–	–
Paper	2	1.5	7	8.5	1	.9	11	13.4	1	1.3	–	–	–	–
Printing	–	–	–	–	–	–	1	2.0	–	–	–	–	–	–
Chemicals	–	–	–	–	1	1.8	2	2.9	–	–	–	–	–	–
Rubber	2	3.9	2	2.9	1	2.5	5	7.9	2	4.1	1	2.5	1	2.5
Stone, clay, and glass	1	1.8	–	–	–	–	4	6.0	–	–	–	–	–	–
Primary metal	13	61.3	12	68.1	4	17.3	21	77.3	11	65.3	5	30.1	5	30.1
Fabricated metal	–	–	–	–	3	7.2	3	3.0	1	1.2	1	1.2	–	–
Industrial machinery	3	15.5	3	15.0	2	13.5	6	20.4	2	12.9	1	2.8	1	2.8
Electronic machinery	1	22.0	2	25.8	1	22.0	4	31.4	1	22.0	1	22.0	1	22.0
Transportation equipment	7	331.5	9	129.4	9	345.6	13	149.4	6	157.5	5	151.9	3	18.7
Measuring instruments	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing														
Motor freight transportation	–	–	–	–	1	10.0	3	25.5	3	42.5	1	17.0	–	–
Communications	–	–	–	–	–	–	–	–	4	44.7	1	3.7	1	3.7
Electric, gas, and sanitary services	1	4.0	4	8.8	1	.9	9	31.3	2	12.0	–	–	–	–
Wholesale trade	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Food stores	1	2.8	–	–	–	–	–	–	–	–	–	–	–	–
Eating and drinking places	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Miscellaneous retail	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Insurance carriers	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Hotels and other lodging	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Business services	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Automotive repair	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Motion pictures	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Health services	2	8.6	–	–	–	–	1	1.0	–	–	–	–	–	–
Legal services	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Educational services	–	–	–	–	–	–	–	–	–	–	–	–	–	–

NOTE: Dash indicates no contracts.

Table 4. Incidence of ergonomic clauses in private-sector collective bargaining contracts expiring between August 1997 and July 2007

Provision	Number of contracts	Percent of contracts
All contracts with safety and health provisions	433	100
Contracts with provisions to:		
Identify cumulative trauma hazards	10	2
Establish a joint labor-management ergonomic committee	23	5
Establish a local labor-management safety and health committee to		
Conduct ergonomic evaluations or studies	100	23
Review new technology or facilities for ergonomic compliance	35	8
Allow union safety representation on ergonomic issues	9	2
Address workstation design	3	1

ments have a provision requiring the identification of cumulative trauma, and six agreements contain clauses that require measures to correct such hazards.

Joint labor-management ergonomic committees. Joint labor-management ergonomic committees are provided for in 5 percent of the agreements with safety and health provisions. This representation is in addition to union involvement on local labor-management safety and health committees, discussed subsequently.

Local labor-management safety and health committees. Ergonomic issues are prevalent in clauses addressing local safety and health committees. Two-hundred nineteen agreements, or 50 percent of all the health- and safety-related agreements, made provisions for such committees. One hundred, or 45 percent, of those agreements *mandate* committee involvement in the conduct of ergonomic evaluations or studies. Among the tasks contained in one or more agreements that are assigned to such committees in the area of ergonomic health are conducting studies of working conditions to prevent ergonomic health hazards, identifying work procedures or methods that cause unnecessary exposure to cumulative trauma types of illnesses, evaluating procedures and practices currently in place in order to determine whether they are meeting their intended purpose of preventing ergonomic illnesses. Reviewing new technology and facilities to ensure that ergonomic concerns are addressed is cited in 8 percent of all the agreements and 15 percent of those agreements with safety and health committees.

Union safety representation on ergonomic issues. Union safety representation in management initiatives to address ergonomic issues appears in 2 percent of the agreements with safety and health provisions. This type of union involvement is independent of both joint labor-management ergonomic committees and union representation on safety and health committees.

Workstation design. Less than 1 percent of the agreements with safety and health provisions address workstation design to prevent hazards. Some of these clauses call for the parties to recognize the importance of considering ergonomics in the workplace. Others require employer commitment to correct any adverse ergonomic conditions in the workplace or to take other actions to minimize their effects. Some of the provisions contain specific actions such as studying the effects of video display terminals, providing training to employees who work a specified percentage of each workday or specified hours per day in an environment in which cumulative trauma hazards exist, and maintaining records of cumulative trauma disorders.

Industry variations. Table 5 shows the frequency of contract clauses related to ergonomics and the numbers of employees (in thousands) covered by each clause, by industry. Only one provision (local labor-management safety and health committee involvement in the review of new technology or facilities for ergonomic compliance) is present in contracts in the mining industry. Furthermore, this same provision is the only ergonomic provision (and it shows up in only one agreement) appearing in agreements in the construction industry. Most of the ergonomic clauses are found in manufacturing contracts in which the specific provisions are typically those assigning the local labor-management safety and health committee the task of conducting ergonomic evaluations or studies. However, the provision that covers the most workers involves identifying cumulative trauma hazards. The provision covering the second-largest number of workers has to do with the establishment of joint ergonomic committees. Only contracts in the transportation manufacturing industry had clauses covering all six provisions selected for study. Finally, with the exception of the motor freight transportation, communications, and electric, gas, and sanitary services industries, no other contracts in the nonmanufacturing industries had any provisions involving ergonomic conditions. The sole exception is one contract in the health services industry that assigns the responsibility for conducting ergonomic studies to the local safety and health committee.

Union-management relations

Table 6 shows the incidence of safety provisions pertaining to union-management relations in private-sector collective bargaining contracts expiring between August 1997 and February 2002. Of the 433 contracts containing safety provisions, 279, or almost two-thirds of them, contain a clause dealing

Table 5. Ergonomic clauses in private-sector collective bargaining contracts expiring between August 1997 and July 2007, by industry

[Workers in thousands]

Industry group	Identify cumulative trauma hazards		Joint ergonomic committee		Local labor-management safety and health committee to—				Union safety representative on erogonomic issues		Workstation design	
					Conduct ergonomic evaluations or studies		Review new technology or facilities for erogonomic compliance					
	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers
All industries	10	650.7	23	479.2	100	443.1	35	474.8	9	136.0	3	107.2
Mining	–	–	–	–	–	–	4	20.4	–	–	–	–
Construction												
Building construction	–	–	–	–	–	–	–	–	–	–	–	–
Heavy construction	–	–	–	–	–	–	–	–	–	–	–	–
Special trade construction	–	–	–	–	–	–	1	.9	–	–	–	–
Manufacturing												
Food and kindred products	–	–	1	1.3	7	11.5	–	–	–	–	–	–
Textile mill products	–	–	–	–	1	4.0	–	–	–	–	–	–
Apparel	–	–	–	–	–	–	–	–	–	–	–	–
Lumber and wood products	–	–	–	–	1	1.0	1	2.2	–	–	–	–
Paper	–	–	–	–	10	11.5	2	1.5	–	–	–	–
Printing	–	–	1	2.0	1	1.3	–	–	–	–	–	–
Chemicals	–	–	–	–	4	4.7	–	–	–	–	–	–
Rubber	–	–	1	2.5	3	5.5	2	3.9	–	–	–	–
Stone, clay, and glass	–	–	–	–	5	10.7	–	–	–	–	–	–
Primary metal	1	.7	3	33.1	21	85.1	11	57.1	2	10.6	–	–
Fabricated metal	–	–	1	1.2	4	6.2	–	–	1	1.2	–	–
Industrial machinery	–	–	2	4.8	7	21.7	2	13.5	–	–	–	–
Electronic machinery	–	–	1	22.0	5	29.6	1	22.0	–	–	–	–
Transportation equipment	9	650.0	8	335.7	12	149.6	10	349.1	5	120.0	3	107.2
Measuring instruments	–	–	–	–	1	3.8	–	–	–	–	–	–
Nonmanufacturing												
Motor freight transportation	–	–	3	35.5	3	35.5	–	–	–	–	–	–
Communications	–	–	1	37.0	4	15.7	–	–	–	–	–	–
Electric, gas, and sanitary services	–	–	1	4.0	10	27.3	1	4.0	1	4.0	–	–
Wholesale trade	–	–	–	–	–	–	–	–	–	–	–	–
Food stores	–	–	–	–	–	–	–	–	–	–	–	–
Eating and drinking places	–	–	–	–	–	–	–	–	–	–	–	–
Miscellaneous retail	–	–	–	–	–	–	–	–	–	–	–	–
Insurance carriers	–	–	–	–	–	–	–	–	–	–	–	–
Hotels and other lodging	–	–	–	–	–	–	–	–	–	–	–	–
Business services	–	–	–	–	–	–	–	–	–	–	–	–
Automotive repair	–	–	–	–	–	–	–	–	–	–	–	–
Motion pictures	–	–	–	–	–	–	–	–	–	–	–	–
Health services	–	–	–	–	1	18.0	–	–	–	–	–	–
Legal services	–	–	–	–	–	–	–	–	–	–	–	–
Educational services	–	–	–	–	–	–	–	–	–	–	–	–

NOTE: Dash indicates no contracts.

with union cooperation on safety and health issues. Significant union involvement in safety and health issues is apparent in contracts with safety and health provisions, with 50 percent of these contracts providing for local labor-management safety and health committees. Furthermore, 13 percent of the contracts have provisions for national committees. Other frequently appearing provisions have to do with furnishing the union OSHA reports (34 percent of the agreements), establishing safety and health grievance procedures (23 percent), and acknowledging that the union is held harmless for employee safety and health problems (18 percent). These provisions, as well as others dealing with union-management relations pertaining to safety and health are discussed in detail below.

Acknowledgment that the union will be held harmless for employee safety and health problems. Issues of risk arise for unions that partner with employers in the management of occupational safety and health. As a result of this situation and related concerns, 18 percent of the agreements with safety and health provisions have clauses holding the union harmless for violations of any law or for occupational illnesses or injuries to employees. Some contracts also state that the union is not liable for any lawsuits or other legal actions that may result from occupational injuries or illnesses. In other contracts, the language is even more emphatic, with clauses specifying that the employer is financially and legally responsible for the safety and health of employees.

Furnishing union with OSHA reports. Thirty-four percent of the agreements with safety and health provisions contain clauses that require the employer to furnish union representatives with copies of OSHA Form No. 200 and other reports. In a somewhat related topic, most of the agreements with a reporting requirement also mandate notifying union representatives of occupational illnesses or injuries, sometimes within a stipulated period after the illness or injury has occurred.

Labor safety and health committees. Fifty percent of the agreements with safety and health provisions contain clauses calling for the empowerment of joint labor-management committees to address issues of mutual concern, including safety and health. A few contracts have provisions stipulating that the parties agree either to discuss the implementation of a *local* safety and health committee or actually to establish one. In most contracts containing provisions relating to safety and health committees, such a committee was established during the collective bargaining process, and the agreement stipulates the terms of the committee's operation. Some agreements involving unions and employer associations do not have provisions for safety and health committees as part of the master agreement, but they do contain stipulations that any employer in the association who establishes a safety and health committee will include representation by the union.

Less than 1 percent of the agreements with safety and health provisions have clauses establishing labor-management *divisional* safety and health committees. Divisional committees are appropriate when a large firm is organized by product divisions. About 13 percent of the agreements have provisions for the establishment of a *national* labor-management safety and health committee. These committees fulfill companywide functions, such as providing training guidelines for use at the plant level, reviewing companywide occupational injury and illness reports, performing research on all operations in the firm, evaluating exposures hazardous to safety and health in various plant operations, and monitoring the environmental health of employees.

Safety and health grievance procedure. Most of the contracts have provisions under the regular grievance procedures for the resolution of any dissatisfactions involving safety and health issues. However, 23 percent of agreements with safety and health provisions have separate grievance procedures devoted to safety and health disputes in particular. These agreements typically involve the largest organizations. The separate procedures differ from traditional grievance procedures in several respects. One of the main ones is that the grievance-handling process is expedited: a final decision, prior to referring the issue to arbitration, is made within a short period, usually 10 days or less. In some agreements, agency involvement is required if the safety issue concerns a governmental regulation. If a safety and health committee exists in the organization, usually one or more of the committee's representatives are assigned to investigate the matter at issue. In other contracts, the matter is referred for resolution to the safety and

Table 6. Incidence of union-management relations safety clauses in private-sector collective bargaining contracts expiring between August 1997 and July 2007

Provision	Number of contracts	Percent of contracts
All contracts with safety and health provisions	433	100
Contracts with provisions for:		
Acknowledgment that the union will be held harmless in cases of employee safety and health problems	79	18
Furnishing of OSHA reports to the union	147	34
A labor-management safety and health committee that is		
Divisional	2	1
Local	219	50
National	56	13
A safety and health grievance procedure	101	23
Union cooperation with management on matters of safety and health	279	64
Authorization of a union representative to stop unsafe work	18	4
A union safety and health representative	22	5

health committee if it is not resolved in the first step of the grievance procedure. When a dispute is not resolved, some contracts refer the matter to a grievance arbitration procedure, which may call for a representative from the occupational safety and health agency in the State to serve as arbitrator.

Union cooperation on matters of safety and health. As previously mentioned, union cooperation is the most frequent provision related to safety and health issues, appearing in 64 percent of the agreements. The clause may call for a union pledge to cooperate with the employer in ensuring that work is accomplished in a safe and healthy manner. Other contract language on the subject contains pledges by both parties to work together to prevent accidents and exposures to health hazards and to maintain a safe environment. Some contracts call for the union to cooperate with the employer in encouraging employees to observe safety and health regulations issued by the employer and to wear safety apparel and utilize safety equipment, regardless of whether such items are furnished by the employer.

Union representative can stop unsafe work. Four percent of the contracts with safety and health provisions include clauses authorizing stewards or other union officials to stop work when conditions are perceived to be unsafe or unhealthy. These clauses also authorize stewards to stop work in the event of inclement weather. They do not, however, grant employees the right to refuse to work in dangerous conditions, a right that *is* included as "refusal of hazardous work" in *employee safety* clauses.

Union representation. Several forms of union representation regarding matters of safety and health are contained in the agreements. The most common form is representation on local union safety and health committees. Another form of representation is provided by union representatives who are paid by the employer for full-time or part-time work dealing with safety and health matters. Five percent of the agreements authorize the employment of such representatives. Most agreements that contain provisions for safety and health committees also authorize paid union safety and health representatives who work independently of the committees. For example, 19 of the 22 agreements that authorize these paid safety and health representatives also authorize local safety and health committees. Representatives may work with management safety employees on special projects and monthly inspections. The representatives also may perform a variety of other functions independently, such as investigate safety complaints from employees, conduct inspections and investigations of accidents, and aid in the resolution of complaints about safety.

Industry variations. Table 7 shows the frequency of contract clauses pertaining to union-management relations and the numbers of employees (in thousands) covered by each clause, by industry. At least one union-management relations clause appears for every industry, except eating and drinking places, miscellaneous retail, and insurance carriers. These clauses are most prevalent in manufacturing industries, with two industries—primary metal and transportation equipment—having coverage in all of the subjects, including divisional labor-management safety and health committees. About 1.4 million workers are covered by contracts with clauses pledging union cooperation in safety and health issues. The other provisions covering the largest number of workers are local labor-management safety and health committees (1.1 million), national safety and health committees (750,000), and safety and health grievance procedures (697,000).

Employee safety

Employee safety is the primary focus of all safety and health provisions. Some provisions, however, relate more directly to guidelines for the protection and control of employees in the work environment. (See table 8.) The most prevalent employee safety clause found in the agreements deals with protective clothing and related items: 41 percent of the contracts had this provision. Almost as great a percentage of contracts, 36 percent, include provisions that deal with employee "dos and don'ts." The other most frequently appearing provisions deal with reporting safety and health needs (31 percent), first aid and medical facilities (24 percent), and refusal of hazardous work (22 percent). Two provisions (conducting surveys and safety and health testing of employees) were in 17 percent of the agreements. The following descriptions summarize the language of the clauses related to employee safety.

Assignment of employees with occupational illnesses or injuries. Providing employment opportunities for employees who are recuperating from occupational illnesses or injuries is a concern for many employers. In some cases, these employees are unable to perform any of the customary duties in their regular jobs. In other situations, the employees may be unable to perform a certain portion of their regular tasks. In the former case, accommodations can be made by providing the employees with temporary or permanent changes in their assignments. In those instances in which some of the tasks of regular employment cannot be performed, the employee can be assigned to perform only those tasks that he or she is able to do.

Fifteen percent of the agreements with safety and health provisions have clauses referring to the assignment of employees recuperating from an occupational illness or injury. Some agreements provide for the establishment of light-duty assignments and prescribe the method for assigning eligible employees to those assignments. Some agreements also have procedures for paying ill or injured employees during the period in which they are unable to perform any work. A number of the provisions include procedures for recuperating employ-

Table 7. Clauses pertaining to union-management relations regarding safety and health in private-sector collective bargaining contracts expiring between August 1997 and July 2007, by industry

[Workers in thousands]

Industry group	Acknowledgement that union is held harmless		Union furnished with OSHA reports		Safety and health committee						Safety and health grievance procedure		Union cooperation on safety and health		Union representative can stop unsafe work		Union safety and health representative	
					Local		Divisional		National									
	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers
All industries	79	418.4	147	583.0	219	1,145.3	2	215.6	56	752.1	101	697.8	279	1,434.8	18	167.2	22	430.0
Mining	–	–	1	1.8	5	27.9	–	–	3	10.9	4	26.3	6	31.3	–	–	1	3.2
Construction																		
Building construction	3	23.0	1	1.3	3	7.8	–	–	–	–	–	–	17	49.9	1	1.0	–	–
Heavy construction	3	10.9	4	14.1	6	23.3	–	–	–	–	4	23.4	16	81.1	–	–	–	–
Special trade construction	7	16.4	4	8.9	10	22.5	–	–	–	–	1	4.0	9	15.8	–	–	–	–
Manufacturing																		
Food and kindred products	7	14.8	8	15.4	16	29.7	–	–	1	1.1	4	6.7	12	21.5	1	2.0	–	–
Textile mill products	–	–	2	5.1	2	5.1	–	–	–	–	–	–	2	5.1	–	–	–	–
Apparel	1	.9	3	9.4	4	44.8	–	–	2	41.2	1	2.2	5	45.3	–	–	–	–
Lumber and wood products	–	–	2	5.2	4	7.2	–	–	–	–	1	2.2	4	7.2	–	–	–	–
Paper	4	4.1	13	14.6	12	14.4	–	–	–	–	5	5.3	22	25.2	–	–	–	–
Printing	–	–	–	–	2	3.3	–	–	–	–	–	–	4	7.5	–	–	–	–
Chemicals	2	1.9	3	2.7	5	5.7	–	–	–	–	1	1.8	7	7.7	1	1.8	1	.9
Rubber	2	3.9	6	9.2	5	7.9	–	–	2	4.1	4	6.5	6	9.2	1	2.5	2	4.1
Stone, clay, and glass	–	–	6	12.0	7	13.8	–	–	–	–	5	10.7	8	16.1	–	–	–	–
Primary metal	15	72.1	23	88.2	23	88.8	1	.6	12	66.0	22	88.1	26	94.8	5	14.9	1	1.1
Fabricated metal	2	1.8	6	14.7	5	11.2	–	–	1	1.2	5	11.2	6	14.7	1	1.2	1	.8
Industrial machinery	5	18.2	10	27.2	7	21.7	–	–	2	13.5	5	18.8	12	30.3	2	4.0	1	10.7
Electronic machinery	5	38.9	8	44.1	12	52.5	–	–	8	69.3	4	28.3	22	103.7	2	24.0	3	26.4
Transportation equipment	8	148.6	13	147.7	26	444.6	1	215.0	10	378.5	19	388.6	27	445.2	3	105.8	8	365.8
Measuring instruments	–	–	1	3.8	1	3.8	–	–	–	–	–	–	1	3.8	–	–	–	–
Nonmanufacturing																		
Motor freight transportation	2	25.5	4	52.5	3	35.5	–	–	4	52.5	3	35.5	5	53.5	1	10.0	–	–
Communications	3	12.1	8	26.8	5	23.3	–	–	7	87.2	2	4.1	14	144.5	–	–	1	.8
Electric, gas, and sanitary services	5	14.8	15	49.0	15	50.2	–	–	2	12.0	6	16.7	22	61.1	–	–	2	14.0
Wholesale trade	–	–	–	–	–	–	–	–	–	–	–	–	1	1.0	–	–	–	–
Food stores	2	6.8	3	18.8	15	67.1	–	–	–	–	1	4.9	13	78.6	–	–	1	1.9
Eating and drinking places	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Miscellaneous retail	–	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–	–
Insurance carriers	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Hotels and other lodging	–	–	–	–	2	13.0	–	–	–	–	1	6.5	–	–	–	–	–	–
Business services	1	.9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Automotive repair	–	–	–	–	1	1.0	–	–	–	–	–	–	–	–	–	–	–	–
Motion pictures	–	–	–	–	2	47.2	–	–	2	14.3	–	–	2	47.3	–	–	–	–
Health services	2	2.4	3	10.0	18	65.4	–	–	–	–	–	–	10	32.7	–	–	–	–
Legal services	–	–	–	–	1	.9	–	–	–	–	1	.9	–	–	–	–	–	–
Educational services	–	–	–	–	2	4.7	–	–	–	–	2	4.7	–	–	–	–	–	–

Note: Dash indicates no contracts.

ees to follow in obtaining medical certification regarding the extent of their condition, their fitness to perform certain types of work, and any accommodations that they might require while recuperating. Some contracts have clauses involving procedures for paying employees for the time they spend being examined by a physician.

Conducting surveys. Seventeen percent of the agreements with safety and health provisions have procedures for the conduct of safety and health surveys. Typically, the surveys involve screening for various health or safety conditions, such as surveys of employee hearing as part of a noise abatement program. These provisions are somewhat different from those having to do with safety testing, chiefly because the surveys involve all the employees in a work area. For example, a study of the detrimental effect of noise emanating from a machine may necessitate a hearing survey of all the employees working in the area nearby the machine.

Working alone or in a confined space. Working alone can be a safety or health issue in certain situations. The safety concerns of working alone are apparent in situations that involve tasks that require two or more persons, such as heavy lifting or positioning of supporting equipment—for example, work on high ladders. More recently, another safety issue in working alone is the threat of workplace violence. Concerns arise regarding employees who are working alone at night in desolate areas. Other safety concerns related to working alone may exist when an employee is working in a cramped or confined area with the potential risk of becoming lodged within the area. Another significant health issues arises with regard to those working alone and handling toxic substances, who may become asphyxiated from fumes given off by those substances.

Nine percent of the agreements with safety and health provisions have clauses that either restrict the conditions under which employees can work alone or provide a procedure for employees to request assistance as they deem necessary. Some agreements prohibit employees from working certain hours of the day, such as before sunrise or after sunset. Some contracts also prohibit employees from working alone when using hazardous chemicals or solvents that can render them unconscious. A number of agreements address the problem of working alone by having procedures for employees to request assistance when working alone on specific tasks, such as welding or burning operations or loading or unloading materials. Some agreements prohibit employees from working alone when they believe that their personal safety will be at risk by doing so and it is reasonable to conclude that a person working alone is in fact at such risk. These prohibitions also include working in tight or cramped spaces in which an employee can become lodged and unable to move or in which the movement of air is restricted, inhibiting breathing. Four percent of the agreements include a provision about working in confined spaces.

"Dos and don'ts." Thirty-six percent of the agreements with safety and health provisions have clauses best characterized as "dos and don'ts." These clauses require employees to adhere to safety and health laws and employer safety and health rules and policies. The clauses include provisions holding employees harmless when they violate any rule about which they were not informed beforehand. Some agreements have clauses which stipulate that employees will be disciplined or discharged for violating such rules and procedures. A number of agreements include time limitations on the consideration of past safety violations in deciding upon the gravity of discipline in future violations. Some agreements have very formalized procedures for taking disciplinary action.

Some agreements outline particular safety rules that must be followed, such as the use of special masonry saws for cutting masonry inside a building and vehicle weight limits that must be observed. Other agreements have the more general stipulation that employees are to work in a safe manner or that they are to protect themselves and the employer's property.

Clauses requiring union representatives to observe safety rules, wear required safety apparel, and utilize safety equipment are included in some agreements. A number of clauses prohibit employers from changing safety rules to evade provisions of the agreement. Employee contributions to the improvement of safety procedures are accounted for in agreements that permit employees to discuss rules with the employer's representatives and suggest ideas for changing them.

Table 8. Incidence of employee safety clauses in private-sector collective bargaining contracts expiring between August 1997 and July 2007

Provision	Number of contracts	Percent of contracts
All contracts with safety and health provisions	433	100
Contracts with provisions for:		
Assignment of employees with occupational illnesses or injuries	67	15
Conducting surveys	73	17
Confined space	18	4
"Dos and don'ts"	156	36
First aid and medical facilities	104	24
A mortality registry	6	1
No hands in dies	8	2
Protective clothing	177	41
Refusal of hazardous work	97	22
Reporting safety and health needs	136	31
Safety and health talks or meetings	32	7
Safety and health tests of employees	76	17
Safety and health training	37	8
Tuition reimbursement	16	4
Working alone	38	9
Dealing with violence in the workplace	13	3

Some agreements assign responsibilities to both employers and employees. For example, some clauses include security provisions wherein employees are required to use their best efforts to protect the employer's property. Other employee responsibilities include reporting any hazards or accidents that occur in the workplace. For safety reasons, some agreements prevent the employer from assigning overtime beyond a certain number of hours.

First aid and medical facilities. Twenty-four percent of the contracts have requirements for first aid, medical facilities, or other arrangements for the treatment of employees who incur job-related injuries or become ill at work. The requirements include first-aid kits, access to medical facilities, and training of employees in cardiopulmonary resuscitation (CPR). Some contracts also have clauses specifying the hours of operation of company medical clinics or other medical facilities. A number of contracts specify the use of health maintenance organizations to treat ill or injured employees.

Some contracts have provisions to resolve different opinions between two physicians about job-related illnesses or injuries. Typically, these provisions give employees the option of obtaining a third opinion when a second opinion was requested, but differed from the original medical opinion. Some contracts require employers to arrange with local medical services, including transportation services, for treatment in the event of a medical emergency. In some agreements, the employer is required to provide an onsite ambulance in the event that there is no ambulance within a specified distance from the work site. A number of agreements require the posting of the name and address of the employer's physician who will treat employees for occupational injuries or illnesses. All contracts limit the choice of physicians available to employees; some also require the employer to post the name and address of the insurance company covering workers' compensation claims.

Mortality registry. Only 1 percent of the agreements with safety and health provisions have clauses referring to a mortality registry, which is a record of all fatalities occurring at the work site. In these registries is information on the cause of death of the employee, the location of the place of employment, and the decedent's occupation.

No hands in dies. Two percent of the contracts with safety and health provisions contain a clause specifically prohibiting employees from placing their hands in stamping and other operations in which dies and related machinery constitute a safety hazard. These clauses also prohibit the establishment of procedures requiring employees to perform such functions.

Protective clothing. Forty-one percent of the agreements have provisions requiring employers to furnish one or more of the following items: protective clothing, uniforms or other garments, safety- and health-related articles, and protective equipment. Presumably, employees would be expected to use protective clothing and equipment provided by the employer, but most agreements are silent on this issue.

Responsibility for maintaining clothing and equipment used at work is another important dimension of agreements that address the subject of protective clothing. Typically, contract provisions require that, when employers furnish these items, employees properly care for and maintain clothing and equipment assigned to them and use such clothing and equipment only on the job and not for personal purposes. Some agreements also have clauses that specify what to do in the event that employees fail to turn in protective items assigned to them as required—for example, when they leave employment. In such cases, employees may have the cost of the items deducted from their final paycheck. Provisions for the replacement of protective clothing or equipment may allow for normal wear and tear or may require the employee to requite the actual cost of replacement. Some agreements require employees to sign personal notes indicating that they are responsible for lost or damaged equipment. In some agreements, employees are required to make a deposit when clothing or equipment is issued, to help ensure its return. Conversely, employers may assume a liability if they do not furnish clothing or equipment. For example, a number of agreements require employers to assume the responsibility for any damage to employees' personal clothing while the employees are on duty.

In some contracts, employees are required to have a minimum tenure of employment, such as 6 months, before they are eligible to be issued safety clothing. In lieu of providing clothing to employees, some contracts grant an allowance to employees to purchase safety clothing. Typically, the amount of the allowance increases with the employee's tenure.

The usual safety items provided by the agreements are safety shoes, overshoes, eyeglasses (including prescription eyeglasses), goggles, safety shields, earplugs, safety belts, hard hats or safety helmets, helmet liners, weather liners for helmets, sun visors, and sweatbands. In some occupations, employers furnish gloves, knee pads, protective aprons, face shields, masks, rubberized suits, aluminized clothing, oxygen masks, and other items. When employees work above ground level, agreements may contain language requiring employers to furnish safety nets and overhead protection. Some agreements pertaining to working conditions that involve radiation require employers to provide film badges to gauge the extent of the employee's exposure. Clothing that is resistant to fire, water, and acid also may be furnished, as working conditions dictate.

Special clauses may protect employees who work with machinery and equipment. Some of these clauses require guards on machines and special devices or mechanisms to protect the employees. Maintenance of equipment and licensure of opera-

tors are other items of concern when employees operate machinery. Some of the agreements require that machines, equipment, and vehicles be kept safe and operable, in accordance with laws and regulations.

The reissuance of equipment also is covered in a number of agreements. The language pertaining to reissuing equipment or clothing previously issued to other employees typically requires the employer to have the items inspected to ensure that they are in proper working order before they are reissued to another employee. Some contracts have provisions requiring that clothing be disinfected prior to being reissued to another employee.

Refusal to work in unsafe or unhealthy conditions. Few issues in the workplace are more contentious than disagreements between managers and employees over their perceptions of unsafe or unhealthy working conditions and the requirement that employees continue working despite such conditions. Twenty-two percent of the agreements have provisions addressing this issue. Some agreements simply mandate that the employer make the workplace safe. Other agreements make the employee responsible for informing the employer about unsafe or unhealthy conditions that are serious enough for the employee to request that the work be stopped.

A concomitant issue is the work status of the employee who is alleging that working conditions are unsafe or unhealthy. Some agreements state, in no uncertain terms, that employees shall not be required to work in unsafe or unhealthy conditions. Some contracts stipulate that no employee shall be discharged or disciplined for refusing to work when the job conditions create a real, immediate, and obvious hazard to the worker or to fellow workers in the area. A few contracts even have clauses specifying that, in the event that the employer violates a "dangerous work" provision, the union has the right to withdraw the employee from the work, and such action shall not be a violation of the contract. Some contracts also require the employer to pay the employee for any time lost if, upon review through either the grievance or some other procedure, it is concluded that the employee was correct in his or her assessment that the work was unsafe or unhealthy. Conversely, some agreements authorize disciplinary action against an employee who did not act in good faith in refusing to work in an area that the employee alleged was unsafe. Still other agreements authorize employers to reassign employees to different work once the employees have cited a specific condition that is dangerous. In the event of a reassignment, some agreements require the employer to pay the employee his or her regular rate of pay, unless the assignment is to a job with a higher rate, in which case that rate shall be paid.

A number of agreements provide for a procedure whereby an employee can appeal the matter if the initial charge of an unsafe condition is not sustained. In these types of situations, employees are required to continue working while appealing the condition. The appeal procedure may involve either the regular grievance procedure or a separate procedure dedicated to safety and health issues. Some agreements require that the alleged unsafe condition be inspected, reviewed, and/or corrected within a specific period, such as 4 hours, after it is reported by the employee. Some clauses also include referring unsafe or unhealthy conditions to a special panel, committee, or governmental agency to investigate. Four percent of the agreements have provisions authorizing union officials to stop employees from working when the officials conclude that the working conditions are so unsafe or unhealthy that they warrant such action.

Some contracts have provisions prohibiting reprisals against employees who report unsafe conditions. A number of clauses also require the employer to acknowledge the use of his or her best efforts in attempting to correct any unsafe or unhealthy condition.

Safety and health need-reporting procedure. Thirty-one percent of the agreements with safety and health provisions have procedures for employees to report conditions that they feel need correction. Typically, these conditions are not serious enough to warrant the employee's refusal to work, but they still need to be corrected. Some provisions dealing with this topic make the employer responsible for giving prompt, fair consideration to employee ideas and suggestions for maintaining proper safety and health working conditions.

Safety talks and meetings. Seven percent of the agreements with safety and health provisions have clauses that mention talks or meetings dealing with safety in the workplace. Some contracts require the employer to conduct periodic safety talks or hold meetings on timely topics relating to safety. The frequency of mandatory safety talks varies, with some held as often as weekly. In some agreements, safety talks are required after serious accidents or fatalities occur. Employee attendance at safety talks typically is mandatory, and some provisions include disciplinary action for employees who fail to attend.

Health testing. Medical testing, including physical examinations to determine an employee's fitness for duty, is the subject of 17 percent of the agreements. The provisions include procedures that will be followed when examinations are requested and administered. Most of the agreements having provisions on this subject detail the circumstances in which testing may be conducted. Generally, there are three broad categories of circumstances. The first, and probably the most common, is the traditional physical examination required as a condition of initial employment. Somewhat related are annual or periodic physical examinations. A second area of testing authorizes employers to conduct special physical examina-

tions for any employee whose duties involve the safety of others. A third area includes examinations administered upon demand. These examinations may be requested to determine an employee's fitness for duty or because of suspicions that the employee is drug impaired. For example, some agreements have clauses permitting employers to administer drug tests to employees for cause, such as when they have an accident at work.

In a few agreements, employees who contest a determination by the employer's physician that they are physically not qualified for work have the option of being examined by a second physician. The two physicians then select a third physician, who will determine whether the employee is physically qualified for work. Some agreements limit the employer's rights to conduct safety and health tests of employees to specific types of tests, such as physical examinations.

Some agreements cover, in addition to physical examinations, eye and hearing tests and drug testing. Provisions involving drug-testing procedures are included if the language specifying a drug-testing requirement has safety and health as its purpose. Some contract provisions require the employer to offer rehabilitation to any employee who fails a drug test. Some agreements have provisions for testing for contagious diseases. A number of these agreements include procedures involving new work assignments or reasonable accommodations for employees who are found to have such diseases. Other agreements allow the employer to dismiss or lay off employees whose diseases are considered hazardous to coworkers.

Most contracts are silent on the issue of who is responsible for paying for the administration of tests. Some contracts specifically stipulate that the employer is obligated to pay for any test. In other contracts, the employer is responsible for paying for only those tests the employer requests. Some agreements specify that physical examinations shall be conducted on paid work time. A number of contracts hold the union harmless for the results of any testing, such as lawsuits stemming from a test. Some agreements also have clauses dealing with the eventuality that a drug test is found to produce incorrect results.

Safety training. Safety training and education are used extensively by employers to prevent occupational accidents, illnesses, and injuries. Safety training, as opposed to talks or short meetings on safety, typically involves longer periods of time, such as an 8-hour course conducted in a training room away from the work site. Eight percent of the agreements with safety and health provisions have clauses involving safety training. Some clauses require employer contributions (such as 5 cents per employee work hour) to establish a pool of funds to be used for safety and health training purposes. Some contracts stipulate that safety and health training will be conducted on the employee's own time. Other contracts are silent as to whether the training will be on paid time or will require payment, subject to a maximum number of hours. A small number of agreements state that all training will be conducted on the clock, even if overtime is involved. Periodic refresher training is required in a number of agreements, particularly when job conditions change and thus warrant training. Some agreements specify the training procedures for new employees and the types of training that will be given, such as training in the operation of fire extinguishers and in the procedures to follow to lock out or tag unsafe equipment, protect against falls, open excavations, and use scaffolding.

Tuition reimbursement. Four percent of the agreements with safety and health provisions have a clause authorizing tuition reimbursement for safety- and health-related training programs and courses.

Workplace violence. Clauses dealing with violence in the workplace are among the least prevalent provisions, appearing in only 3 percent of the agreements with safety and health provisions. This low incidence is perhaps surprising, in view of today's increased awareness of, and attention paid to, violence in the workplace. The reason may be that provisions to address workplace violence issues have not yet filtered into contracts. Some innovative efforts, however, are being made to address the issue in collective bargaining. For example, one contract establishes a national committee for the purpose of reducing workplace violence. This committee interfaces with the company's employee assistance and counseling programs. Some agreements have violence response teams and methods to help alleviate the stress that may lead to workplace violence.

Industry variations. Table 9 shows the frequency of contract clauses related to employee safety and the numbers of employees (in thousands) covered by each clause, by industry. The transportation industry is the only industry that has contract provisions in all 16 subjects of employee safety shown in the table. As noted earlier, a potentially confrontational issue in the workplace involves the perception and differing opinions of what constitutes hazardous work. Five of the six contracts in the mining industry have a provision relating to that issue. Other industries in which such a provision appears frequently are stone, clay, and glass manufacturing (62 percent), primary metal manufacturing (also 62 percent), and transportation equipment (51 percent). The two most frequently appearing provisions in all of the construction industries involve "dos and don'ts" and protective clothing. As expected, contracts in these industries have no provisions involving either confined space or prohibitions on placing hands in dies. In addition, none of the construction contracts

have a provision for a mortality registry or tuition reimbursement. Two other provisions, each of which appears in one construction industry contract, deal with conducting surveys and workplace violence.

With the exception of the measuring instruments industry, one or more contracts in all the other manufacturing industries have provisions for reporting safety and health needs. The two other provisions that appear most frequently in manufacturing industries have to do with conducting surveys and "dos and don'ts." Somewhat surprisingly, with the exception of transportation equipment manufacturing and primary metal manufacturing, few industries make use of safety and health testing of employees. Including contracts in those two industries, only 43 (or 23 percent) of the 184 contracts in the manufacturing industries have testing provisions.

The two most frequently appearing employee safety provisions in contracts in the nonmanufacturing industries involve protective clothing and "dos and don'ts." Only 1 of the 30 contracts in food stores, eating and drinking places, and miscellaneous retail goods has a provision on workplace violence. This finding is significant, because almost half of workplace homicides in which employees are the victims occur in retail establishments, such as grocery stores and eating and drinking places, where cash is readily available.[3] In addition, only 6, or 25 percent, of the 24 contracts in the health services industry have workplace violence provisions. One might expect that this frequency would be higher, given that health care workers are the victims of a disproportionate share of lost-time injuries due to workplace assaults.[4]

The employee safety provisions that cover the largest numbers of workers deal with protective clothing (901,000 workers), refusal of hazardous work (727,000), reporting of safety and health needs (666,000), safety and health testing of employees (628,000), and "dos and don'ts" (627,000).

Technology, maintenance, and operations

Table 10 displays the frequency of provisions affecting issues related to technology and safety and health requirements in the maintenance and operation of equipment. These provisions are related to some emerging issues in collective bargaining that affect other workplace concerns as well as safety and health. For example, the introduction of new technology typically is viewed from the dimension of layoffs and permanent job loss. In addition to these concerns, however, the issue has implications for worker safety and health. Nine percent of the 433 contracts have provisions for reviews of new technology, including the assurance that the new technology will protect the health and safety of workers. This provision should be considered with two others discussed previously. As noted in the discussion of ergonomic provisions, 8 percent of the contracts provide for local labor-management committee involvement in reviews of new technology and facilities to see that they comply with ergonomic standards. In addition, three contracts, constituting less than 1 percent of all the agreements, have provisions which mandate that ergonomic considerations enter into workstation design. Finally, as noted in the discussion of occupational health provisions, 6 percent of the agreements provide for noise abatement programs. The provisions involving noise abatement include reviews of new technology and equipment to determine their noise levels.

Maintenance of equipment and facilities is another emerging issue that has implications for workplace safety and health. As a cost reduction strategy, some employers are outsourcing maintenance to contractors. This strategy frequently results in employees losing their jobs and may raise at least two concerns about workplace safety and health: will the contractors work safely in performing their tasks, and will they ensure that equipment is being safely maintained? Despite these concerns, only 2 percent of the agreements have provisions addressing the issue of contractor safety. In addition, 2 percent have provisions on safety and health maintenance requirements, and 3 percent have clauses relating to the lockout or tag-out of inoperable or unsafe equipment. The following discussion describes the provisions dealing with these subjects.

Contractor safety. As mentioned, 2 percent of the agreements with safety and health provisions include employer assurances that contractors perform work in a safe and healthful manner. Some agreements specify action against contractors who violate safety procedures. For example, they may be ineligible to receive work and/or be removed from work they are performing. These types of clauses also stipulate that contractors are responsible for performing work in accordance with government laws and regulations and employer safety rules. When subcontractors are used, the provisions may place responsibility for the safety and health conditions of the entire project upon the primary contractor.

Lockout/tag-out. This clause relates to the stopping of equipment and turning off the power to machines due to safety hazards caused by exposure to energy or motion of the machines or equipment. Typically, a review procedure is involved before lockouts or tag-outs are implemented. Three percent of the agreements with safety and health provisions contain lockout/tag-out provisions.

New technology, facilities, machinery, and processes. Nine percent of the contracts with safety and health provisions include clauses involving new technology, facilities, machinery, and processes. Some clauses include provisions that require training employees in the safe operation of new technology, processes, or machinery.

Table 9. Employee safety clauses in private-sector collective bargaining contracts expiring between August 1997 and July 2007, by industry

[Workers in thousands]

Industry group	Assignment of ill or injured employees		Conduct surveys		Confined space[1]		"Dos and dont's"		First aid		Mortality registry		No hands in dies		Protective clothing	
	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers
All industries	67	426.5	73	537.0	18	175.7	156	627.4	104	499.8	6	352.8	8	358.4	177	901.6
Mining	2	17.6	–	–	–	–	4	22.6	3	25.3	–	–	–	–	3	24.5
Construction																
Building construction	7	35.3	–	–	–	–	26	71.2	8	42.4	–	–	–	–	25	68.6
Heavy construction	6	25.4	–	–	–	–	20	92.4	4	6.5	–	–	–	–	19	59.7
Special trade construction	5	8.3	1	1.5	–	–	16	25.9	9	14.0	–	–	–	–	20	45.0
Manufacturing																
Food and kindred products	–	–	3	5.5	–	–	4	6.6	5	8.8	–	–	–	–	5	8.5
Textile mill products	–	–	–	–	–	–	1	4.0	–	–	–	–	–	–	–	–
Apparel	1	6.2	2	37.2	–	–	–	–	3	9.4	–	–	–	–	–	–
Lumber and wood products	–	–	3	6.2	–	–	–	–	–	–	–	–	–	–	–	–
Paper	2	1.7	10	11.5	–	–	9	9.5	3	2.9	–	–	–	–	4	3.9
Printing	–	–	1	1.3	–	–	–	–	–	–	–	–	–	–	–	–
Chemicals	1	1.8	1	1.1	1	1.8	2	1.9	2	2.7	–	–	–	–	4	4.6
Rubber	1	2.5	3	5.3	1	2.5	2	3.9	2	3.9	1	2.5	1	2.5	5	7.8
Stone, clay, and glass	3	4.7	–	–	–	–	4	6.5	6	12.5	–	–	–	–	4	7.5
Primary metal	17	76.3	15	53.3	4	15.8	19	51.7	18	78.7	1	10.0	–	–	28	86.6
Fabricated metal	3	7.2	2	4.7	3	5.4	3	9.4	3	3.2	–	–	–	–	2	4.4
Industrial machinery	3	6.5	5	144.4	3	15.5	6	21.2	6	11.7	1	2.8	2	13.5	7	227.5
Electronic machinery	3	29.0	11	70.1	1	22.0	5	29.9	3	27.6	1	22.0	1	22.0	6	32.5
Transportation equipment	7	15.4	5	109.8	5	112.7	7	119.0	15	186.4	2	315.5	3	318.7	19	406.6
Measuring instruments	–	–	–	–	–	–	1	3.8	–	–	–	–	–	–	–	–
Nonmanufacturing																
Motor freight transportation	2	25.5	1	10.0	–	–	2	25.5	2	25.5	–	–	–	–	2	25.5
Communications	–	–	2	51.3	–	–	1	1.8	–	–	–	–	–	–	1	1.3
Electric, gas, and sanitary services	1	1.7	8	23.4	–	–	10	26.2	3	9.1	–	–	1	1.7	10	29.5
Wholesale trade	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Food stores	–	–	–	–	–	–	6	32.3	4	9.1	–	–	–	–	4	18.8
Eating and drinking places	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	2.0
Miscellaneous retail	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Insurance carriers	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Hotels and other lodging	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Business services	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	.9
Automotive repair	–	–	–	–	–	–	1	1.0	–	–	–	–	–	–	1	1.0
Motion pictures	–	–	–	–	–	–	2	47.3	1	11.0	–	–	–	–	1	11.0
Health services	3	21.0	–	–	–	–	4	12.9	2	3.6	–	–	–	–	8	27.1
Legal services	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Educational services	–	–	–	–	–	–	1	1.2	1	1.2	–	–	–	–	1	1.2

See footnote at end of table.

Table 9. Continued—Employee safety clauses in private-sector collective bargaining contracts expiring between August 1997 and July 2007, by industry

[Workers in thousands]

Industry group	Refusal of hazardous work		Reporting safety and health needs		Safety and health talks or meetings		Health testing of employees		Safety training		Tuition reimbursement		Working alone		Workplace violence	
	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers
All industries	97	727.7	136	666.3	32	426.8	76	628.1	37	477.3	16	366.2	38	477.3	13	80.1
Mining	5	27.9	3	12.3	1	1.8	2	8.5	1	1.6	–	–	–	–	–	–
Construction																
Building construction	16	65.0	2	5.7	6	21.7	8	29.1	5	6.4	–	–	2	10.0	–	–
Heavy construction	9	40.8	2	3.5	2	3.4	13	56.7	3	3.7	–	–	2	3.2	1	4.5
Special trade construction	4	5.1	4	11.7	4	9.8	6	8.4	7	10.7	–	–	7	14.7	–	–
Manufacturing:																
Food and kindred products	2	4.4	9	15.3	–	–	–	–	1	1.8	1	1.4	–	–	–	–
Textile mill products	–	–	1	4.0	–	–	–	–	–	–	–	–	–	–	–	–
Apparel	–	–	3	43.4	–	–	–	–	–	–	–	–	–	–	–	–
Lumber and wood products	1	2.2	3	6.2	–	–	1	2.2	–	–	–	–	–	–	–	–
Paper	4	3.9	10	11.9	–	–	1	.6	–	–	3	3.0	–	–	–	–
Printing	–	–	1	1.3	–	–	1	2.0	–	–	–	–	–	–	–	–
Chemicals	–	–	2	2.9	2	1.9	–	–	–	–	–	–	1	1.8	–	–
Rubber	1	2.5	4	6.5	1	2.5	3	5.1	–	–	3	5.5	1	2.5	–	–
Stone, clay, and glass	5	10.7	6	12.5	–	–	4	6.0	–	–	–	–	–	–	–	–
Primary metal	18	77.5	24	84.3	7	17.5	12	57.4	4	8.4	3	7.2	5	34.8	–	–
Fabricated metal	2	2.0	3	7.2	–	–	–	–	–	–	–	–	1	1.2	–	–
Industrial machinery	2	4.3	8	23.9	1	2.8	1	2.8	–	–	1	2.8	3	15.7	–	–
Electronic machinery	2	23.3	8	36.4	2	24.0	2	25.2	–	–	1	22.0	2	31.8	1	2.4
Transportation equipment	17	370.0	14	185.5	4	322.2	9	377.9	8	336.3	4	324.3	8	342.1	1	34.1
Measuring instruments	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing																
Motor freight transportation	2	25.5	4	52.5	–	–	–	–	–	–	–	–	1	10.0	–	–
Communications	1	2.3	6	58.0	–	–	–	–	–	–	–	–	1	2.3	1	2.3
Electric, gas, and sanitary services	2	6.2	11	34.6	–	–	–	–	–	–	–	–	3	6.1	1	1.8
Wholesale trade	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Food stores	–	–	5	13.1	–	–	4	8.5	1	12.0	–	–	–	–	–	–
Eating and drinking places	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Miscellaneous retail	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1.0
Insurance carriers	–	–	–	–	–	–	1	1.2	–	–	–	–	–	–	–	–
Hotels and other lodging	–	–	–	–	–	–	–	–	1	4.3	–	–	–	–	–	–
Business services	1	5.0	–	–	–	–	1	3.5	2	6.8	–	–	1	.9	–	–
Automotive repair	–	–	–	–	–	–	1	1.0	–	–	–	–	–	–	–	–
Motion pictures	2	47.3	–	–	1	18.0	1	18.0	–	–	–	–	–	–	–	–
Health services	–	–	2	32.0	1	1.1	4	12.5	3	3.7	–	–	–	–	6	33.1
Legal services	–	–	1	.9	–	–	–	–	–	–	–	–	–	–	1	.9
Educational services	1	1.2	–	–	–	–	1	1.2	1	3.5	–	–	–	–	–	–

NOTE: Dash indicates no contracts.

Table 10. Incidence of technology, maintenance, and operation safety clauses in private-sector collective bargaining contracts expiring between August 1997 and July 2007

Provision	Number of contracts	Percent of contracts
All contracts with safety and health provisions	433	100
Contracts with provisions for:		
Contractor safety	10	2
Lockout or tag-out	15	3
New-technology reviews (with built-in safety and health features)	39	9
Plastic injector moldings	4	1
Safety and health requirements in maintenance of equipment	10	2

Plastic injector moldings. These clauses include provisions in which the employer agrees to comply with applicable OSHA regulations and national consensus standards from the American National Standards Institute (ANSI) regarding the safe operation of plastic injector molding machines. The clauses recognize the very different hazards posed by the hydraulics used in plastic injector molding machines relative to conventional mechanical power machines. The low number of contracts (four) with these clauses is reflective of the specialized nature of this provision.

Safety and health requirements in maintenance. Proper maintenance is generally recognized as tantamount to the safe operation of equipment. Yet only 10 contracts contain provisions that require the employer to maintain equipment to ensure its safe operation.

Industry variations. Table 11 shows the frequency of contract clauses related to safety and health in new technology and the maintenance and operation of equipment, as well as the numbers of employees (in thousands) covered by each clause, by industry. No provisions relating to the work of contractors or to plastic injector moldings are contained in the six mining contracts. The absence of the former provision is understandable, as plastic injector moldings are used only in manufacturing settings. One-third of the mining contracts have provisions addressing safety and health requirements in the maintenance of equipment. Technology, maintenance, and operations safety provisions appear in only 3 of the 126 agreements in the construction industry. These provisions are not in any of the contracts in eight of the manufacturing industries (food and kindred products; textile mill products; apparel; printing; chemicals; stone, clay, and glass; fabricated metal; and measuring instruments). Only one contract in the lumber industry contains a provision involving the subjects of technology, maintenance, and operations safety. By contrast, almost half of the contracts in the primary metal manufacturing industry have provisions on new-technology reviews. In addition, 30 percent of the agreements in both industrial machinery manufacturing and transportation equipment manufacturing have provisions on the subject.

The agreements with provisions relating to technology, maintenance, and operational safety constitute a small proportion of the total agreements shown in the table, ranging from a maximum of 9 percent for new-technology reviews to 1 percent for plastic injector moldings. Notwithstanding these small percentages, the provisions for all five subjects cover from 340,000 to 500,000 workers, or 18 percent to 26 percent, respectively, of all the workers covered by safety and health provisions. Consequently, the effect of the provisions is significantly greater than their incidence in collective bargaining agreements would appear to indicate.

Other provisions

In addition to the specific provisions discussed in the five major categories of occupational health; ergonomics; union-management relations; employee safety; and technology, maintenance, and operations, 55 percent of the agreements had one or more other provisions, including clauses relating to the following items:

- charging employees for safety violations
- assigning responsibility for fines imposed due to legal violations
- reporting accidents
- providing lockers and washup facilities
- providing sanitary facilities, supplying water, providing drinking cups, and providing facilities for employees to store their tools in off-hours at construction
- providing shower facilities for employees exposed to radiation
- complying with laws and regulations and industry standards and regulations
- authorizing union representatives to accompany government inspectors on safety inspections that are either periodic or motivated by perceived unsafe or unhealthy job conditions
- responding to emergency conditions not specifically identified in the agreement
- implementing workers' compensation procedures. (Some contracts designate a separate workers' compensation committee to investigate and manage problems with occupational injuries and illnesses.)

Comparisons with the 1976 study

The industry composition of the firms in the 1976 collective bargaining agreement database differs significantly from the

Table 11. Technology, maintenance, and operation safety clauses in private-sector collective bargaining contracts expiring between August 1997 and July 2007, by industry

[Workers in thousands]

Industry group	Contractor safety		Lockout and tag-out		New-technology review		Plastic injector moldings		Safety and health maintenance requirements	
	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers	Contracts	Workers
All industries	10	363.7	15	366.3	39	500.5	4	340.0	10	366.4
Mining	–	–	1	7.5	1	1.6	–	–	2	9.3
Construction										
Building construction	2	8.5	–	–	–	–	–	–	–	–
Heavy construction	–	–	–	–	–	–	–	–	–	–
Special trade construction	–	–	–	–	1	1.4	–	–	–	–
Manufacturing										
Food and kindred products	–	–	–	–	–	–	–	–	–	–
Textile mill products	–	–	–	–	–	–	–	–	–	–
Apparel	–	–	–	–	–	–	–	–	–	–
Lumber and wood products	–	–	–	–	1	2.2	–	–	–	–
Paper	–	–	2	2.3	1	.6	–	–	–	–
Printing	–	–	–	–	–	–	–	–	–	–
Chemicals	–	–	–	–	–	–	–	–	–	–
Rubber	–	–	2	3.7	3	5.1	1	2.5	1	2.5
Stone, clay, and glass	–	–	–	–	–	–	–	–	–	–
Primary metal	2	11.1	–	–	14	72.7	–	–	2	11.1
Fabricated metal	1	1.2	–	–	–	–	–	–	–	–
Industrial machinery	1	2.8	2	13.5	4	17.0	–	–	1	2.8
Electronic machinery	1	22.0	1	22.0	1	22.0	1	22.0	1	22.0
Transportation equipment	3	318.0	7	332.4	10	371.6	2	315.5	3	318.7
Measuring instruments	–	–	–	–	–	–	–	–	–	–
Nonmanufacturing										
Motor freight transportation	–	–	–	–	–	–	–	–	–	–
Communications	–	–	–	–	–	–	–	–	–	–
Electric, gas, and sanitary services	–	–	–	–	1	1.2	–	–	–	–
Wholesale trade	–	–	–	–	–	–	–	–	–	–
Food stores	–	–	–	–	1	1.2	–	–	–	–
Eating and drinking places	–	–	–	–	–	–	–	–	–	–
Miscellaneous retail	–	–	–	–	–	–	–	–	–	–
Insurance carriers	–	–	–	–	–	–	–	–	–	–
Hotels and other lodging	–	–	–	–	–	–	–	–	–	–
Business services	–	–	–	–	–	–	–	–	–	–
Automotive repair	–	–	–	–	–	–	–	–	–	–
Motion pictures	–	–	–	–	–	–	–	–	–	–
Health services	–	–	–	–	–	–	–	–	–	–
Educational services	–	–	–	–	1	3.5	–	–	–	–

NOTE: Dash indicates no contracts.

composition of the firms in the database used to select the sample for the study reported in this article (the 1997 database). The 1976 database consisted of 908 agreements (52.6 percent of the total) in manufacturing and 816 agreements in (47.3 percent of the total) in nonmanufacturing. By contrast, the 1997 database is composed of 399 (34.1 percent) and 769 (65.8 percent) agreements in manufacturing and nonmanufacturing, respectively. The scope of the two studies also varies. The researchers in the 1976 study examined 26 subjects; for the current article, 43 subjects were analyzed. Ninety-three percent of the 1,724 agreements in the 1976 database contained one or more of the 26 subjects. In the 1997 database, 58 percent of the agreements contain one or more of the 43 subjects. The major reason for this difference is that the most frequently appearing subject in the 1976 agreements was not included in the research reported in this article. This subject, compensation for job-related injuries, appeared in 60 percent of the 1976 agreements. In addition, another subject (sanitation, housekeeping, and personal hygiene) that appeared in 40 percent of the 1976 agreements was not included in the research reported here.

The contracts with safety and health provisions in the 1976 study covered 7.9 million workers, or about one-half of the number of workers who were included in collective bargaining agreements in the industries that were studied. The 433 agreements with safety and health provisions in the 1997 database of contracts expiring between August 1997 and July 2007 cover 1.8 million workers, or about 18 percent of the number of workers included in collective bargaining agreements in the industries examined.

There are some similarities and some differences in the relative frequency with which various subjects were covered in the 1976 and 1997 agreements. Because agreements in manufacturing constitute a smaller portion of the 1997 database, it is not surprising that some provisions, such as those involving first aid and medical facilities, protective clothing, and the refusal of hazardous work assignments, are less prevalent than in the 1976 agreements. These three provisions were in 13.9 percent, 23.7 percent, and 13 percent, respectively, of the 1997 agreements. In the 1976 database, the same three provisions were in 28.5 percent, 49.1 percent, and 13 percent, respectively, of the agreements. Four provisions that appeared with the same or approximately the same frequency in both agreements are those pertaining to union-management cooperation (41 percent in 1976 and 37 percent in 1997), safety training and talks (7.6 percent and 9.2 percent), joint labor-management safety and health committees (26.5 percent and 29.4 percent), and union stoppage of unsafe work (2.4 percent in both agreements). Another provision, that the union must be furnished accident reports, appeared more frequently in the 1997 agreements (19.7 percent, compared with 12.3 percent). Provisions involving separate grievance-reporting procedures appeared more frequently in the 1976 agreements (16 percent, as opposed to 13.5 percent).

THIS ARTICLE HAS ANALYZED the safety and health clauses in 744 private-sector collective bargaining agreements expiring between August 1997 and July 2007. The number of workers covered ranges from 650 to 215,000, a population that represents virtually all of the agreements covering 1,000 workers or more. Fifty-eight percent, or 433, of the agreements contain one or more of the 52 safety and health subjects selected for inclusion in the study. The workers covered by agreements with at least one safety and health provision represent 18 percent, or 1.8 million, of the number of workers in the 744 agreements that were examined.

The frequency with which the various provisions appeared in the 433 agreements, as well as the number of workers covered by agreements with provisions, were calculated. The clause that appears most frequently in the agreements is a pledge of union cooperation on matters of safety and health (64 percent). The next nine most frequently appearing provisions have to do with the establishment of a joint local labor-management safety and health committee (50 percent), protective clothing (41 percent), safety "dos and don'ts" (36 percent), the furnishing of the union with OSHA reports (34 percent), the reporting of safety and health needs (31 percent), first aid and medical facilities (24 percent), the establishment of a separate safety and health grievance procedure (23 percent), local labor-management safety and health committee involvement in conducting ergonomic evaluations and studies (also 23 percent), procedures involving the refusal to perform hazardous work (22 percent), and local labor-management safety and health committee reviews of hazard communication programs (also 22 percent).

The provision covering the largest number of workers, 1.4 million, is a pledge of union cooperation on matters of safety and health. The next nine provisions covering the largest numbers of workers involve the establishment of a local labor-management safety and health committee (1.1 million workers), protective clothing (901,000), the establishment of a national labor-management safety and health committee (752,000), the refusal of hazardous work (727,000), the establishment of a separate safety and health grievance procedure (697,000), reporting safety and health needs (666,000), identifying cumulative trauma hazards (650,000), safety and health testing of employees (628,000), and safety "dos and don'ts" (627,000).

The top three provisions in order of frequency in the 433 contracts also had the same ordinal position in the number of employees covered. Thus, the pledge of union cooperation on matters of safety and health, which appeared the most frequently in the contracts (in 64 percent of the agreements), also was the provision that covered the most workers (1.4 million). The establishment of local labor-management safety and health committees was the second most frequently appearing provision (in 50 percent of the agreements) and also was second in coverage of workers (1.1 million). The third most frequently appearing provision, involving protective clothing (in 41 percent of the agreements), was third in worker coverage (901,000). After these three provisions, there is a disparity between the rankings for the frequency of the provisions and for the numbers of employees covered by them. For example, safety "dos and don'ts" was fourth in frequency among the 433 agreements and was 10th in worker coverage. The provision to furnish the union with OSHA reports was fifth in frequency in the contracts (34 percent), but was not among the top 10 in worker coverage. Provisions relating to first aid and medical facilities and to local labor-management safety and health committee involvement in conducting ergonomic evaluations and studies were two others among the top 10 in frequency in the agreements, but were not among the top 10 in numbers of employees covered. Conversely, provisions having to do with the establishment of a national labor-management safety and health committee, reporting of

safety and health needs, identifying cumulative trauma hazards, and safety and health testing of employees were among the top 10 provisions in numbers of employees covered, but were not among the top 10 in frequency in the contracts. □

Footnotes

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[1] *Major collective bargaining agreements: safety and health provisions* (Bureau of Labor Statistics, 1976).

[2] *Lost-worktime injuries: characteristics and resulting time away from work, 1995* (Bureau of Labor Statistics, June 12, 1997).

[3] *National census of fatal occupational injuries, 1996* (Bureau of Labor Statistics, Aug. 7, 1997).

[4] *Lost-worktime injuries: characteristics and resulting time away from work, 1995* (Bureau of Labor Statistics, June 12, 1997).

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Consumer inflation in 1997 at 11-year low

Factors underlying the slowdown in consumer prices included falling prices for energy and moderating food costs; if food and energy are excluded, the index shows the smallest increase in 32 years

Todd Wilson

The Consumer Price Index for All Urban Consumers (CPI-U) All Items for the U.S. city average increased 1.7 percent in 1997, down from a 3.3-percent advance during the prior year.[1] The 1997 rise was the smallest annual increase since the 1.1-percent advance in 1986, when oil prices collapsed. A combination of declining energy prices and moderating food inflation contributed to last year's relatively low consumer inflation. Lower prices for consumer energy followed falling world crude oil prices, as oil supplies outpaced usual demand, and as demand for oil turned out to be weaker than expected. Decelerating food inflation accompanied decreasing prices for animal feed and wheat.

The CPI-U excluding food and energy prices (often called the core CPI-U) increased 2.2 percent, the smallest calendar-year rise in 32 years. Decreasing commodities prices across a wide variety of items, including new and used cars and housefurnishings, contributed to the slowdown in inflation in 1997. Commodities prices, subject to greater global competition than those for services, rose just 0.2 percent. Within commodities, prices for durable goods decreased 1.5 percent; nondurable goods increased 0.8 percent. Services fees, which increased 2.8 percent in 1997, decelerated as well, although not nearly as much as did commodities prices. (See table 1.)

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Other economic measures

After adjustment for inflation, the economy expanded 3.7 percent during 1997 on a fourth-quarter to fourth-quarter basis. Last year's increase in real gross domestic product was the largest calendar-year rise during the current economic expansion, which began in 1991. The unemployment rate decreased more than one-half percentage point this past year to 4.7 percent in December, the lowest yearend level since 1969.

The combination of last year's record-low consumer inflation and record-low unemployment rate is unusual. Generally, a sustained unemployment rate under 5 percent has been accompanied by accelerating, not decelerating, inflation. Although a slight acceleration in wages and salaries has accompanied the relatively low unemployment rate, the acceleration has been weaker than the past would indicate. The Employment Cost Index (ECI) for wages and salaries for private industry workers increased 3.9 percent last year (more than twice the rate of consumer inflation), after rising 3.4 percent during 1996.

On balance, the Producer Price Index (PPI) declined as well during 1997, adding further downward pressure to business' materials costs and consumer prices. Excluding energy from each of the following PPI's, finished consumer goods decreased

Table 1. Annual percent change in the Consumer Price Index for All Urban Consumers (CPI-U), selected expenditure categories, 1988–97

Expenditure category	December 1996 relative importance	Percent change for 12 months ended December—									
		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
All items	100.000	4.4	4.6	6.1	3.1	2.9	2.7	2.7	2.5	3.3	1.7
Energy	7.049	.5	5.1	18.1	–7.4	2.0	–1.4	2.2	–1.3	8.6	–3.4
Food	15.913	5.2	5.6	5.3	1.9	1.5	2.9	2.9	2.1	4.3	1.5
All items less food and energy	77.038	4.7	4.4	5.2	4.4	3.3	3.2	2.6	3.0	2.6	2.2
Commodities less food and energy	23.364	4.0	2.7	3.4	4.0	2.5	1.6	1.4	1.7	1.1	.4
Commodities less food	26.960	3.2	3.3	7.4	.8	2.4	.6	1.9	1.1	2.6	–.5
All items less energy	92.951	4.7	4.6	5.2	3.9	3.0	3.1	2.6	2.9	2.9	2.1
Commodities	42.873	3.8	4.1	6.6	1.2	2.0	1.5	2.3	1.4	3.2	.2
Durables	10.242	2.5	1.2	.9	2.4	2.5	2.7	2.9	1.7	.7	–1.5
Furniture and bedding	1.117	3.5	–1.4	1.1	1.0	4.5	3.6	1.6	4.2	1.0	–.7
Video and audio products	0.407	–1.4	–.5	–3.6	–.8	–1.8	–.8	–2.1	–3.9	–2.2	–3.8
Major household appliances	0.284	3.6	–1.4	–.3	–2.1	.5	1.5	3.6	–1.8	1.4	–1.9
Information-processing equipment	0.074	[1]	–7.3	–2.6	–4.1	–6.1	–7.6	–9.1	–10.7	–11.6	–12.1
New vehicles	4.955	2.2	2.4	2.0	3.2	2.3	3.3	3.3	1.9	1.8	–.9
Automobile parts and equipment	0.529	2.3	2.2	.9	1.6	–.6	–1.6	.5	.5	–.1	–.9
Sporting goods and equipment	0.399	4.4	2.1	1.8	3.7	.1	.3	3.2	–.6	–.1	–.4
Nondurables	32.631	4.4	5.2	8.5	.8	1.9	1.1	2.0	1.4	4.0	.8
Energy commodities	3.596	–2.3	7.9	35.4	–16.1	1.2	–5.1	5.2	–3.3	13.8	–6.9
Gasoline	[2]	–1.8	6.5	36.8	–16.2	2.0	–5.9	6.4	–4.2	12.4	–6.1
Fuel oil	0.293	–6.3	19.5	29.9	–19.9	–3.4	–4.6	.0	1.5	23.3	–11.7
Textile housefurnishings	0.329	5.8	–.3	2.5	1.9	–1.9	6.6	–3.6	.5	–.7	–3.3
Apparel commodities	4.786	4.8	.7	5.0	3.4	1.2	.8	–1.9	–.1	–.5	.9
Medical care commodities	1.273	6.9	8.2	8.4	7.5	5.2	3.1	3.0	1.8	2.6	2.3
Toys, hobbies, and music equipment	0.372	4.1	2.4	1.5	1.1	2.5	1.5	–.9	1.0	2.8	–1.6
Services	57.127	4.8	5.1	5.7	4.6	3.6	3.8	2.9	3.5	3.3	2.8
Shelter	28.194	4.5	4.9	5.2	3.9	2.9	3.0	3.0	3.5	2.9	3.4
Airline fares	1.108	3.3	5.3	22.7	–6.0	6.6	17.0	–9.5	1.8	14.7	–4.8
Medical care services	6.073	6.9	8.6	9.9	8.0	7.0	5.9	5.4	4.4	3.2	2.9
Medical care	7.346	6.9	8.5	9.6	7.9	6.6	5.4	4.9	3.9	3.0	2.8

[1] Data are not available.

[2] No relative importance is published for gasoline. The relative importance for motor fuel, which includes gasoline and diesel fuel, is 3.171.

NOTE: Data are not seasonally adjusted.

0.1 percent, intermediate materials rose 0.2 percent, and crude materials declined 2.7 percent. Much of the decline in crude materials reflects sharp decreases in prices for nonferrous metal ores, copper base scrap, cotton, cattle hides, and foodstuffs and feedstuffs. The PPI does not reflect changes in import prices.

Energy and food prices

Energy. The behavior of energy prices changed significantly in 1997, compared with 1996. The 1996 energy markets reflected tight supply and demand conditions. World crude oil prices reached $23 per barrel in October, the highest level since the Persian Gulf War. Prices of all petroleum-based products followed oil prices and rose sharply as well in 1996; gasoline prices increased 12.4 percent and fuel oil costs rose more than 23 percent.[2]

The situation changed significantly in 1997. The Organization of Petroleum Exporting Countries (OPEC) began to exceed production quotas, resulting in increased inventories and falling prices. Non-OPEC production rose as well, especially from Mexico, Brazil, and other Latin American nations. By yearend, crude oil prices were less than $17 a barrel.

In the first quarter of 1997, milder-than-expected winter weather resulted in reduced demand for fuel oil. Meanwhile, oil production outpaced demand. As increased production flooded oil markets, world petroleum prices plummeted through April.[3]

Later in the year, beginning in October and lasting through December, petroleum and gasoline prices again moved sharply lower. Factors behind these decreases included a weakening in demand from the troubled economies of East Asia, a milder-than-usual autumn in much of the northern

hemisphere that accompanied the El Niño weather system, and an increase in OPEC oil production, particularly from Venezuela.

In 1997, the decrease in crude oil prices translated into sharply lower prices for gasoline and home heating oil. Gasoline charges declined 6.1 percent in 1997. Last year's sharp decrease largely reflects declining petroleum prices, lower gasoline demand due to cooler-than-normal driving weather during the spring and early summer, and rising crude oil and gasoline stocks, which reached levels not seen for several years. Because 1997's autumn and early winter weather was milder than usual, many oil refiners did not switch production from gasoline to heating oil, as they usually do at that time of year. Consequently, gasoline inventories climbed quite high.

At the same time, charges for household fuel oil decreased 11.7 percent in 1997. Energy services (electricity and natural gas) rose just 0.2 percent in 1997, after increasing 3.8 percent during the preceding year. Electricity prices decreased 1.3 percent. Natural gas costs increased just 3.3 percent, down sharply from an 11-percent rise in 1996.

Food. Food inflation decelerated sharply last year, with prices increasing just 1.5 percent, following a 4.3-percent advance in 1996. Grocery store food prices (food at home) rose 1.0 percent in 1997, after rising 4.9 percent during the previous year. Declining prices for beef and veal, dairy products, pork, poultry, eggs, and fresh fruits led the deceleration.

Beef and veal charges decreased 0.7 percent last year, after rising 2.4 percent in 1996. The number of cows slaughtered increased in 1997, mainly a result of disappointing forage conditions, a number of winter storms, and record-high hay prices. Furthermore, negative publicity on recalled E-coli-contaminated beef dampened domestic and international demand. Finally, declining pork prices acted to suppress beef and veal costs. Charges for dairy products declined 0.5 percent in 1997, after increasing more than 10 percent in the prior year. In contrast to 1996, in 1997, farmers spread out their available forage until new crop supplies became available, thereby avoiding a decrease in milk output per cow.

Pork prices decreased 1.5 percent in 1997, following an 11.3-percent rise during the prior year. Last year represented an expansionary phase of the pork production cycle, as both breeding stocks and the number of hogs slaughtered increased. A reduction in corn feed prices has encouraged the expansion to last longer than it otherwise would have. After peaking in July 1996, the PPI for corn decreased nearly 50 percent by December 1997. Other mitigating factors include lower-than-anticipated exports to Japan and increased imports.

Poultry costs were down 1.6 percent last year, following a nearly 8-percent rise in 1996. As with hogs, lower feed costs resulted in increased flocks of of chickens. Also, exports to Russia, China, and the European Union were lower than expected. After increasing 12 percent in 1996, the index for eggs decreased 7.2 percent last year. Following record wholesale egg prices in 1996, both the size of flocks and productivity per hen rose in 1997.

Fresh fruits prices decreased 4.7 percent in 1997, after increasing 12 percent during the previous year. Apple supplies were abundant, as the second-largest Washington crop on record went to market. Last year was also a record harvest year for grapefruit, for which demand has been decreasing since the 1992–93 season. Additionally, California had a record harvest of grapes; a large volume of imported Mexican grapes contributed to lower prices as well. Finally, there were bumper crops of California plums and strawberries, and California and Georgia peaches.

Lower charges for fresh fruits were offset by a 13.2-percent increase in fresh vegetable prices. Prices for tomatoes rose 31 percent, following freezing and cold weather in Florida, and cold weather and excessive rainfall in Mexico. Lettuce prices increased more than 18 percent.

Prices of cereals and bakery products increased just 1.5 percent last year, less than half as much as during 1996. Declining wheat prices were largely responsible for the moderation. After peaking in May 1996, the PPI for wheat decreased more than 40 percent by December of last year.

Items other than food and energy

Shelter, cable television, and housefurnishings. The shelter index rose 3.4 percent last year, higher than a 2.9-percent rise during the prior year. Except for the household maintenance and repairs category, higher increases than in 1996 were registered in all categories within the shelter component, including residential rent, lodging while out of town, lodging while at school, tenants' insurance, owners' equivalent rent, and household insurance.

Charges for cable television increased 6.9 percent. Factors behind the rise included higher rates for both basic service and extended basic service, and installation fees that were returning from sale price levels.

Higher shelter and cable television costs were partially offset by a 1.4-percent decrease in housefurnishings charges. The following decreases were reported within this category: textile housefurnishings, –3.3 percent; furniture and bedding, –0.7 percent; and appliances including electronic equipment, –3.9 percent.

New vehicles and used cars. New-vehicle prices decreased 0.9 percent last year, the first calendar-year decrease since 1971. Demand for new vehicles weakened in 1997 largely a

a result of sharply declining used-car prices, owners holding on to their cars and trucks longer, and increasing demand for new vehicle leasing. This resulted in intensified domestic and foreign competition. Domestic manufacturers responded with cost-cutting techniques (for example, increased use of outsourcing and reductions in the numbers of models offered) and offered incentives to dealers and customers. The cost-saving measures enabled manufacturers of domestic vehicles to remain competitive, despite flat domestic demand (sales were up just 0.1 percent from 1996) and rising imports.

Between January and November of 1997, Japan's carmakers, for example, increased exports to the United States by more than 11 percent. The strengthening of the U. S. dollar, which makes imported goods less expensive, accounts for some of that increase.

Used-car prices decreased 4.9 percent in 1997, the largest decrease in 11 years. Record numbers of leased vehicles (most of them 2 or 3 years old) coming off lease in 1997 resulted in a large increase in supplies of used cars and trucks. From 1993 to 1997, the number of vehicles leased in this country nearly doubled, from 1.6 million to 2.9 million. Cars coming off lease added downward price pressure to used cars, which in turn dampened prices of competing new automobiles. Moreover, the increased incidence of leasing, as an alternative to buying, may have directly held down prices of new and used vehicles.

Medical care. Medical care inflation continued to decelerate in 1997 for the seventh consecutive year. The medical care index increased just 2.8 percent, slightly lower than the 1996 advance. Annual percent increases in these charges have not been this low since 1965. Increases in the indexes for most components of medical care were lower last year, including prescription drugs, physicians' services, and hospital and related services. Prescription drug prices increased 2.5 percent in 1997, down from a 3.2-percent rise in 1996. In 1997, a number of mergers took place that created economies of scale leading to a moderation of upward price pressure. The government took action in some cases to preserve the competitive environment by requiring the sale of some individual stores to competitors. Expiring patents led to an increase in the number of lower priced generic drugs. Many new drugs were approved by the Food and Drug Administration in 1997, leading to a significant increase in the number of drug choices.

Fees for physicians' services rose 2.7 percent, the smallest increase since 1972. The practice by insurance companies of paying physicians a smaller percentage of their regular fees continued in 1997, as a result of the continued growth in managed care programs. Physicians' fees for noninsured patients also rose less than in recent years.

Charges for hospital and related services continued their 7-year trend of smaller increases. Charges for these services increased 3.2 percent, following a 4.1-percent rise in 1996.

Other goods and services. Prices for tobacco and smoking products rose 7.2 percent last year, the highest increase since 1992. Most of the rise in tobacco charges reflects increases in cigarette prices. Last year, leading tobacco companies raised these charges at the wholesale level, partially in an attempt to finance huge settlement costs stemming from lawsuits. Also, increases in State excise taxes on cigarettes raised such prices even further. Tuition and other school fees, and school books and supplies each increased more than 5 percent. Personal financial services rose 6.0 percent in 1997, reflecting higher costs for tax preparation services and electronic tax filing. Legal service fees increased 5.1 percent, in part because of higher fees associated with uncontested divorces, short will preparation, and legal briefs. Finally, the funeral expenses index rose 5.1 percent. Much of the increase can be attributed to higher costs for funeral services. Additionally, higher charges were reported for cremations, caskets, vaults, cemetery lots, and memorials. □

Footnotes

[1] Annual percent changes are December to December, unless otherwise noted.

[2] See Todd L. Wilson, "Winter and Spring Gasoline Prices Show Highest Rise Since Persian Gulf War," *CPI Detailed Report*, June 1996, pp. 4–6.

[3] See "Motor Gasoline Assessment, Spring 1997" (Energy Information Administration, pp. 5–8), on the World Wide Web at:
http://www. eia. doe.gov/neic/press.html

Employment growth and educational attainment

Richard M. Devens, Jr.,
and Todd M. Godbout

Employment growth in the United States outpaced that of Japan and Europe over the span of years between 1980 and 1996. In 1996, employment in the United States had grown by more than a quarter from the level of 1980. In Japan, there were about 15 percent more jobs, while in the major economies of Europe,[1] there had been very little net increase. (See table 1.) There were several differences in the time tracks of employment growth among these nations, and there were important compositional differences in terms of industry and occupation.

In the United States, the period began far less auspiciously than it ended. From 1981 to 1982, employment dropped sharply as a deep recession reached its trough. The economy recovered in 1983, and employment growth accelerated in 1984, then settled into a prolonged upward movement. In 1991, the economy again suffered job losses, followed this time by 2 years of sluggish growth before regaining a job growth rate that resembled the rates prevailing in the mid-1980s.

In Japan, there has been less variability of economic performance. There was no downturn of employment in the early 1980s and the period of moderate growth extended further into the 1990s before flattening into a prolonged period of sluggishness. In Europe, downturns in the early 1980s and 1990s were less abrupt but more prolonged than those in the United States. As of 1996, there was little recovery in employment visible in the aggregate of the four major European economies.

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Educational attainment

One interesting comparative dimension underlying these differing growth trends has been in the degree of educational attainment embodied in the jobs created. In the United States from 1980 through 1996, there was an annual rise of 2.6 percent in high-attainment sectors[2]—those in which 30 percent or more workers have college degrees—and an annual rise of 0.9 percent in sectors with fewer college graduates. In Japan there was a similar pattern, although both growth rates were fractionally lower—2.5 percent for higher attainment industries and 0.8 percent in lower attainment sectors. (See chart 1.)

In Europe, there were somewhat different developments. Although rates of growth in high-attainment sectors were somewhat lower in all four major economies than in the United States or Japan, the major difference in Europe was not found among jobs in these sectors. In all four of these nations, there was an absolute decline in employment in lower attainment jobs between 1980 and the mid-1990s. The number of lower attainment jobs in the United Kingdom went down 0.7 percent per year from 1980 to 1996, and declined 0.4 percent in Italy. In France and Germany, where comparable statistics are available for 1980 through 1993, employment in the lower attainment sectors fell by 0.9 percent and 0.1 percent per year, respectively.

As a result, the composition of employment registered different patterns of change across these countries. In Europe (excluding West Germany), the tilt toward sectors with higher educational attainment was quite pronounced. The following tabulation shows the employment share of higher educational attainment sectors in 1980 and 1993 or 1996:

	1980	*1993*	*1996*
France	36.6	46.7	....
United Kingdom	35.6	....	45.1
Italy	27.8	....	36.9

The patterns of composition showed marked increases of about 10 percentage points in the share of the employed that worked in sectors that had higher concentrations of college graduates.

In the United States, Japan, and West Germany, the tendency to increased share of employment in such industries was relatively more muted. In the United States, 40.6 percent of the employed in 1980 were in high-attainment sectors. By 1996, this share was 47.4 percent. In West Germany, high-attainment sectors accounted for 31.7 percent of employment in 1980 and 38.2 percent in 1993, the most recent year for

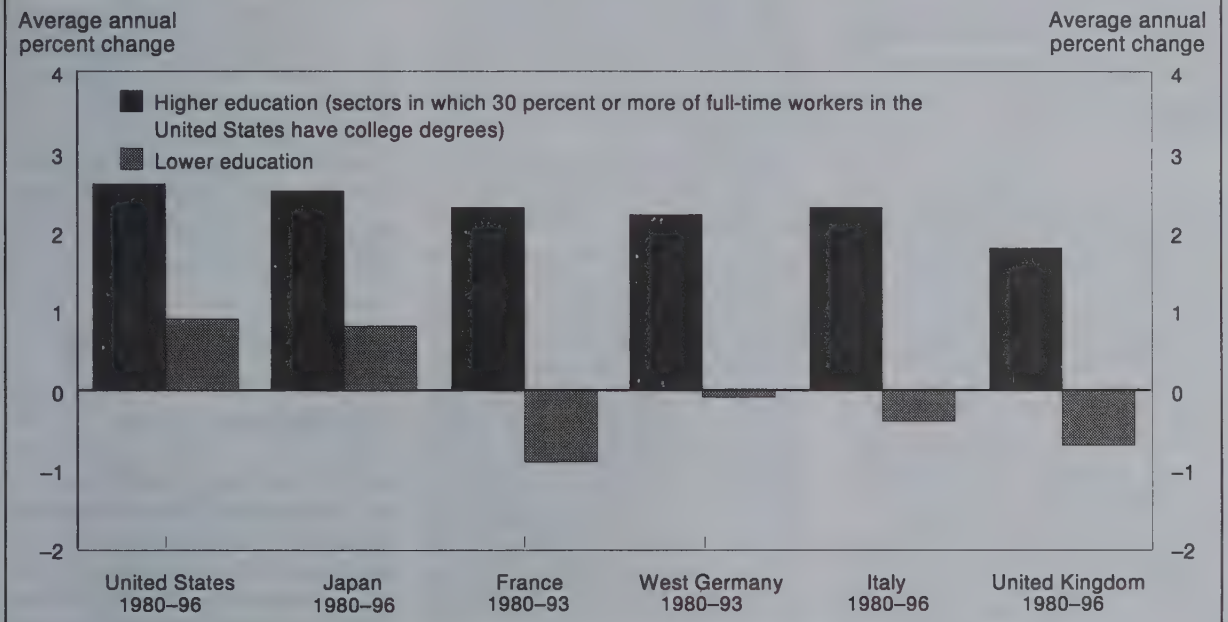
Table 1. Employment in the United States, Japan, and Europe, 1980–96

(In thousands)

Year	United States	Japan	Europe[1]
1980	99,303	54,600	92,800
1981	100,397	55,060	91,860
1982	99,526	55,620	91,350
1983	100,834	56,550	90,920
1984	105,005	56,870	91,250
1985	107,150	57,260	91,800
1986	109,597	57,740	92,530
1987	112,440	58,320	93,360
1988	114,968	59,210	94,920
1989	117,342	60,500	96,170
1990	118,793	61,710	97,680
1991	117,718	62,920	97,910
1992	118,492	63,620	97,420
1993	120,259	63,810	95,730
1994	123,060	63,860	95,260
1995	124,900	63,890	95,680
1996	126,708	64,200	95,720

[1] France, West Germany, Italy, and the United Kingdom.

Chart 1 **Employment growth by higher and lower educational attainment sectors**



SOURCE: Bureau of Labor Statistics and the Organization for Economic Cooperation and Development.

Slower employment growth in Europe was accompanied by declining employment in lower educational attainment sectors.

which data are available. In Japan, 28.2 percent of the employed in 1980 were in sectors that employed higher concentrations of college graduates. By 1996, this share had edged up to 33.9 percent, but Japan had exchanged places with Italy at the bottom of the table, despite having a faster growth rate of jobs in high-attainment sectors. □

Footnotes

[1] France, West Germany, Italy, and the United Kingdom.

[2] The higher educational attainment sectors consist of finance, real estate, insurance, business services, and personal services. The lower educational attainment sectors consist of manufacturing, construction, public utilities, wholesale and retail trade and transportation and communication.

Returns to education: controlling for high school

There is an earnings premium for college graduates, but it may not be as high as the raw figures have so often indicated. According to Joseph G. Altonji, an economics professor writing in the Federal Reserve Bank of Chicago journal, *Economic Perspectives*, controlling for the personal characteristics of graduates substantially reduces the rate of return, but controlling for the characteristics of the worker's secondary education has only a modest additional effect.

Each year of postsecondary academic education, according to Altonji's basic analysis of the National Longitudinal Survey of the High School Class of 1972, raised wages by about 8 percent. This was reduced to about 6.5 percent when family background, ability, aptitude, and region are controlled. Adding controls for a set of characteristics of the high school and the student's course work only reduced this rate of return by an additional tenth of a percentage point.

How scarce is labor?

How much should one worry about labor shortages? In recent months, unemployment rates have been lower than they have been in a quarter century. Sara L. Johnson, chief regional economist for Standard and Poor's DRI, calls labor shortages one of the "clouds on the horizon" for an economy that is recording rising incomes, low unemployment, mild inflation, strong business investment, and progress in all regions of the United States. More than half of the respondents to a recent survey conducted by the National Association for Business Economics reported difficulties hiring skilled labor.

When viewed in a global perspective, however, it may continue to be easier to find skilled labor in the United States and other industrial nations than in their trading partners in the big emerging markets. In a presentation prepared for McGraw-Hill's 1998 Symposium on Information Solutions, Nariman Behravish, DRI's chief international economist, rated the risk of skilled labor shortages as extremely unlikely in Japan, Germany, and the United States over a 1-year time horizon. Even over a 5-year horizon, he found the risks to be less than 1 in 10 for these countries. In contrast, the nations with the highest risks of running short of skilled labor in the longer term were Saudi Arabia, South Africa, Thailand, Indonesia, Egypt, and Malaysia. (See the May 1997 and May 1996 issues of the *Review* for reports on Saudi Arabia and South Africa.)

Child labor

Statistical surveys are often poor instruments for measuring other than the specific data for which they were designed. Admitting so, but pushing on, Douglas Kruse and Douglas Mahony laboriously estimated illegal employment among persons under 18 years of age for a recent National Bureau of Economic Research (NBER) working paper, *Illegal Child Labor in the United States: Prevalence and Characteristics*.

They estimated that in an average year between January 1995 and September 1997 about 290,000 youths were employed illegally sometime during the year and worked about 113 million hours in such employment. By comparison, the total number of working age persons with some work experience in 1996 was 141.4 million. Thus, minors in illegal work account for about 0.2 percent of those with work experience. The hours they work make up roughly 0.05 percent of all hours worked.

Unions have small impact on managers' pay

Unions limit management's discretion over the wages of workers covered by the collective bargaining agreement. In general, unions raise the wages of their members and compress wage distributions for covered workers within establishments and industries. John DiNardo, Kevin Hallock, and Jorn-Steffen Pischke, in their NBER working paper *Unions and Managerial Pay*, explore the possible impact of unions on pay of the firm's managers and executives. They find that there is a weak negative link between unionization rates and CEO (chief executive officer) pay. That is, for every 10 percentage point increase in the unionization rate, CEO pay is about 2 percent lower. (One anomaly: firms with low unionization rates may pay their chief executives more than those without a union at all.)

While the impact of unions on management pay was relatively small, the authors found consistent evidence that fewer managers were employed where unionization was higher. "Thus," conclude DiNardo, Hallock, and Pischke, "unions may redistribute rents toward workers not by lowering the pay of workers but by reducing their numbers and therefore their wage bill." □

Steel industry bargaining

The Rise, Fall and Replacement of Industrywide Bargaining in the Basic Steel Industry. By Garth L. Mangum and R. Scott McNabb. Armonk, NY, M.E. Sharpe, 1997, 209 pp. $62.95, cloth; $21.95, paper.

Don't let the awkward title keep you from reading Garth Mangum and Scott McNabb's new book describing changes in the structure of collective bargaining in the U.S. steel industry. The authors, who possess both theoretical and practical experience in the steel industry and with its unions, note in a preface that steel bargaining was in the process of changing almost underneath their feet as they were concentrating on other, more narrow aspects of the industry; accordingly, this book ended up being quite different from what they had originally started out to write. For this the readers can be delighted.

In nine concise, well-thought-out chapters, the authors set out, in a lucid and accessible manner, the economics of the industry, the operation of historical influences, the workings of the labor market, and the impact of domestic and foreign competition over the last century. After an introductory overview of the scope and major arguments of the book, chapter 2 describes the formation of the Steel Workers' Organizing Committee and the initiation of bargaining, campaigns by the United Steel Workers of America (USWA)in the direction of wage equity, influenced by the coming of World War II and the development and implementation of the Cooperative Wage Study, and the emergence of industrywide bargaining in the early post-war period and its more or less formal adoption in 1956 with the creation of the Coordinated Committee Steel Companies (management) and the Basic Steel Industry Conference (union).

As the authors note in chapter 3:

> [T]he forces that would destroy industrywide collective bargaining...were set in motion in the very next negotiation following its introduction. The event that planted the seeds of eventual dissolution was the 116-day steel strike in 1959. However, that event would not have been pivotal had it not been for its interaction with product-market and technological developments just then emerging in the worldwide steel industry.

In the flush of postwar success, U.S. integrated steel producers were at first slow to invest in more capacity, and then poured money into technologies, like the traditional open hearth furnace, that were on their way out. In contrast, European and Pacific steelmakers, many of whose plants were ravaged by war, rebuilt with not only new equipment but new production processes such as continuous casters and oxygen furnaces. When competition from abroad began to seriously threaten the U.S. steelmakers' market share, union and management linked arms to pursue a protectionist strategy, persuading government to adopt Voluntary Restraint Agreements and other measures designed to limit steel imports.

The authors describe how four postwar nationwide strikes in effect made the satisfactory conclusion of collective bargaining less likely: the parties were driven apart by their expectations, usually justified, that the government would intervene. In 1959, however, the nationwide strike lasted 116 days before a Taft-Hartley injunction was granted. Two major strikes in the 1960s helped drive domestic steel users increasingly to seek foreign sources and encouraged manufacturers to stockpile, exacerbating the cyclical aspects of the market.

During the 1970s, strikes were effectively foreclosed by the Experimental Negotiating Agreement, which raised wages 3 percent a year (derived from national, rather than industry, increases in productivity). But while the union's no-strike pledge had a leveling effect on demand and production, forces in the direction of wage restraint were disarmed.

Much of this history is familiar to readers of prior historians and analysts of collective bargaining in steel. The authors build upon and generously cite Jack Stieber's contributions to the 1980 Industrial Relations Research Association research volume and John Hoerr's massive history of the decline of American steel, *And the Wolf Finally Came* (1988). However, Mangum and McNabb do not cite the chapter on steel bargaining by Jeffrey B. Arthur and Suzanne Konzelmann Smith in the 1994 research volume, *Contemporary Collective Bargaining in the Private Sector* (Paula B. Voos, ed., Madison, WI, Industrial Relations Research Association, 1994). This work provides a fine update of the Stieber material and is particularly informative when discussing job restructuring. Both the 1994 chapter and the book under review here discuss the difficult times of concession bargaining in the 1980s and the economic forces driving the restructuring of steel bargaining (that is, the successes of mini-mills, international joint ventures, modernization of domestic producers) and the "New Directions Bargaining Movement" of the USWA.

Mangum and McNabb provide a positive answer to the question raised 3 years earlier by Arthur and Smith: will there be "a new industrial relations system in steel embodied in the cooperative partnership model?" Where Mangum and McNabb truly add to our store of knowledge (apart from the remarkable clarity and conciseness with which they retrace familiar ground) is their description of the personal, political, and economic factors (including, notably, the vision of USWA president Lynn Williams) that propelled the union into its current role as a leader in the restructuring of the industry.

The salient details of bargains struck with major producers during the 1990s are reviewed, company by company, as are the remarkably far-reaching aspects of labor-management cooperation that informed these bargains. These elements, clearly bespeaking how trust has largely supplanted mistrust between union and company, include widespread information sharing, adoption of longer-term agreements, a union presence on company boards of directors, paring

down of work rules and job classifications, and company commitments to job security and training.

Other scholars have similarly noted this transformation. In 1994, Professor Charles J. Morris, a longtime observer of industrial relations from a legal perspective, reviewed the workings of New Directions Bargaining at Inland Steel. In a paper presented at a joint U.S.-Mexico-Canada conference held pursuant to the North American Agreement on Labor Cooperation, Norris stated:

This is truly a story of iconoclastic labor relations and industrial governance. It dramatically illustrated how workers and employers in the United States have already joined together to create a high-performance industrial relations model that is second to none in the entire world, and they have done so with Congressional permission but not Congressional mandate. This statutory encouragement of flexibility is one of the great strengths of the American collective bargaining system.

I have few quarrels with Mangum and McNabb, apart from a number of awkward phrases and areas where further detail might have been useful. I would, however, question their brief negative references to the labor cost implications of greater employee voice and workplace democracy, relating both to the fact of unionization itself and to the German model of codetermination and works councils. In the scholarly volume, *Works Councils—Consultation, Representation, and Cooperation in Industrial Relations* (J. Rogers and W. Streeck, eds., Chicago, University of Chicago Press, 1995), which analyzes devices to advance worker voice in Europe and North America, co-editor Joel Rogers concludes that "a well-designed system of intrafirm worker representation can produce economic benefit not just [to] workers, but to firms themselves." He cites the greater productivity and efficiency, as well as improved management decisionmaking and avoidance of costly mistakes, that result from greater employee involvement. This is especially true, Rogers says, when workers also receive more training and are given a share of productivity increases. As Mangum and McNabb make clear, both increased training and some form of compensation based on firm performance have characterized recent USWA agreements in steel.

In relation to the rest of Mangum and McNabb's work, however, this is small criticism. It is perhaps most useful in pointing up the need for further documentation of the tangible advantages of labor-management cooperation, for the benefit of remaining skeptics. Thus, I commend *The Rise, Fall and Replacement of Industrywide Bargaining in the Basic Steel Industry* to all *Monthly Labor Review* readers, especially to the lay audience. It will be of particular value to labor studies groups, and to union leaders and members who want to understand the forces at work when a basic industry is beaten down and then comes back, smaller but tougher, in a recovery aided in no small part by labor-management cooperation.

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World labor situation

World Labour Report: Industrial Relations, Democracy, and Social Stability, 1997–98. Washington, International Labour Organization, 1997, 283 pp. $39.95.

"... [T]he trade union movement has fallen on hard times," write the authors of the latest in the series of *World Labour Reports* ILO has published since 1984. The salient fact underlying this statement has been the sharp membership decline trade unions have suffered over the 1980s and 1990s, particularly in the industrial countries—a decline that paralleled the continued growth in the number of wage and salary earners, and thus resulted in an even greater contraction in trade union density (that is, the proportion of the total number of such earners belonging to unions). Thus, density shrank 21 percent in the United States between 1985 and 1995; 28 percent in the United Kingdom; 17 percent in the old Federal Republic of Germany (1985–93); and 31 percent in France.

Of the 70 countries surveyed, one-half experienced membership losses. Substantial gains, however, were reported by South Africa, Canada, South Korea, India, and China. Yet, in many newly industrializing and developing countries, membership has decreased as the "formal" sector contracted.

While in a number of European countries bargaining coverage considerably exceeds trade union density, trade unions' claim that they represent broad worker interests has weakened as their strength has receded. Their overarching political and social functions—ensuring that workers have a voice in their work life; that productivity gains be more fairly distributed; that all persons able and willing to work be assured of a job—are being undermined.

Essentially four socioeconomic forces have put the trade unions increasingly on the defensive. One has been a shift in "the balance of power away from labor to capital," evidenced by the enhanced worldwide mobility of capital. Having arisen from liberalized investment regimes, such mobility enables firms to "raise and spend money anywhere in the world," increasing their "locational freedom." Even when not exercised, this freedom may wring concessions from a firm's employees.

The second force, likewise detrimental to the unions, has been a turn toward greater enterprise autonomy in matters of industrial relations—away from industrywide or pattern bargaining, as well as, in tendency, from centralized tripartite bargaining (practiced in some European countries). This turn has been occasioned by the greater flexibility presumably required by globalized produc-

tion and markets.

Thirdly, drastic changes in work organization have occurred, owing to technological advances enabling the design and manufacture of more high-quality and customer-specified goods, and requiring fewer lower skilled and more multi-skilled workers. This has tended to result in more individualized compensation systems, and closer identification of some worker groups with middle management. The unions, traditionally oriented to work organizations based on mass production and closely defined job descriptions, have had difficulty adapting their strategies to these changes.

Finally, the unions' ability to press for high or full employment, and prevent the spread of contingent (or "casual" or "precarious") work, is hindered by pressures on macro-economic policies, exerted by international finance, to eschew Keynesian intervention seeking to secure such employment goals, and to assign priority to preventing wage and price inflation. The mobility of capital is thus accompanied by the "immobility" of the state, "the unquestionable decline in national policy autonomy," and, increasingly, the "transfer to enterprises functions previously largely performed at the national level."

Challenges facing the trade unions are given far greater weight by the ILO report than successes (which have generally remained "modest"). Among the weightiest of challenges has been the transformation of work and the organization of production already noted. Among the manifestations—some of which have roots, to be sure, dating to the 1960s—has been outsourcing, that is, the partial externalization of production of goods and/or services. Outsourcing, ILO writes, is a cause of labor market segmentation, if only "in some settings." These settings are evidently proliferating, as more small- and middle-sized enterprises have become subcontractors. The link between subcontractor and the contracting firm tends to be organizational, not merely commercial; hence the subcontractor's autonomy in matters of technology, production methods, and layout gets to be narrowly circumscribed. "[R]elative to large firms, small- and middle-sized enterprises are far more likely to be nonunion," according to the report, hence working conditions are often inferior. In the case of "off-shore" locations, the subcontractor is obviously beyond the reach of domestic unions. A large share of imports from Mexico, for example (42 percent), move within the "internal" markets of contracting firms domiciled in the United States, ruling out any equalization of working conditions (as of the early 1990s, trade union membership in Mexico was down 26 percent from the late 1980s).

Trade unions have always assumed that their industrial relations opposites are firms, not merely their establishments; or industries consisting of reasonably homogeneous enterprises. But this assumption no longer holds or must be modified more and more, for two reasons. Many firms affiliate with others to form networks in carrying out given projects. Such inter-firm dependencies do not conform to traditional industrial relations structures; they do not, as it were, offer a readily discernible collective bargaining address.

The other reason consists of the obverse phenomenon, where multinational enterprises maintain specialized plants in various geographical areas, each separately managed. An estimated 75 percent of international trade is accounted for by interplant shipments. The plants may well be unionized, but the multinational enterprise center's pressure on their managers limits their bargaining room, all the more so as the center will compare performance of its plants.

ILO reports a striking example of such "performance competition" between an Australian appliance manufacturer and his joint-venture partner in China. The highest monthly wage rate in the Australian factory was roughly 30 times higher than its Chinese counterpart; weekly hours, 38 in the former, 60 in the latter; and collective bargaining rights, fully recognized in the former, denied in the latter. The gap in labor rights and labor costs threatened closure of the Australian plant, the Chinese one having become a "benchmark and 'negotiating lever'" for bargaining and reorganizing the former. Productivity increases in the Australian plant "up to the level where it would counterbalance" labor cost differentials became the overriding objective of the workers and managers there. Productivity was indeed raised substantially, but at the cost of a 50-percent cut in employment and an assembly line speedup. Performance competition thus may diminish gains won earlier; resistance may lead to plant closure. Trade unions' fundamental task of protecting working conditions is put at risk.

The trend toward enterprise autonomy in industrial relations, pronounced in the United States and eroding centralized and industrywide bargaining in Europe, possibly prefigures a degree of de-institutionalization of collective bargaining. In the United States, there have been tendencies to "individualize" labor relations; an aspect of this tendency has been the spread of "independent contracting." It has been suggested that court action would suffice in case of disputes, and that personnel managements could administer collective relations. Union-nonunion cost differentials would in time disappear. The trend represents a potential incursion upon industrial relations as a function of democracy, as this function is implied in the report's subtitle.

Another implication of the report's subtitle is the link between industrial relations and social stability. This link has become tenuous. A growing number of workers, many women and youths among them, cannot obtain other than contingent work (part-time, casual, or contract). Such workers "currently represent a significant minority who often find themselves in conditions comparable to those of yesterday's proletariat." The unions' opposition to the category of jobs these workers hold is often unacceptable to them: they need these jobs for lack of better ones. Collective agreements afford a modicum of protection to

some of them. Outstanding examples cited by ILO include the "Justice for Janitors" campaign that has been conducted by the Service Employees International Union; the "Living Wage" campaigns in some American cities; and the successes in organizing California healthcare workers.

The report devotes a brief chapter to trade union developments in Eastern Europe. No clear trend emerges from the discussion. In Poland and elsewhere in Eastern Europe, the unions were the foremost advocates of restoring civil society, and of ensuring democratic representation. They retain political influence, but authority over their membership has become "uncertain." Workers who do well evidently lack interest in joining unions; workers whose jobs are "precarious" remain reluctant to do so. Agreements between individual firms and unions, to be sure, are increasing but the report's authors do not view this as a characteristic trend. There is (as yet) no discernible consensus among employers as to what role collective agreements should play, if any. This lack of consensus probably reflects the divergence of interests between the larger, still state-owned firms, and small- and medium-sized enterprises. Privatization seems not necessarily beneficial to the work force; it has resulted in the near disappearance of worker participation in enterprise decisions—once a key demand of the Polish labor movement.

The report features a long section discussing the relevance of industrial relations and practices to the "informal sectors" of newly industrializing and developing countries. The informal sector is defined as consisting of mostly self-employed urban residents, using rudimentary tools to produce low-quality goods in low quantities, and yielding low incomes; or offering services marginally needed and valued, and likewise yielding low incomes. There is little or no regulation of working conditions, and no publicity administered coverage protecting against loss of earning power.

The informal sector is in effect defined against the "formal" sector where stability of employment, wages, and benefits, as well as socially regulated protections represent an integral component of modern enterprise, with its backward and forward links to markets and government services. The formal sector, however, has been shrinking relative to the informal one. In Latin America, of the roughly 16 million jobs generated between 1990 and 1994, more than 8 in 10 arose in the informal sector. In much of Asia, this sector absorbs 40 to 50 percent of the urban labor force; in Africa, 61 percent. Its growth is attributable in part to the contraction of public employment owing to economic stabilization and restructuring programs; rural–urban migration; and deregulation compelled by global competition. (Public employment is in the formal sector; retrenched workers often seek their livelihood in the informal sector.)

The great diversity of informal-worker occupations, the manifold difficulties arising in this sector, and the associations formed by its workers are discussed in some detail in the report. The discussion is highly informative; it cannot be summarized here. Be it confined to a key point made by the authors. They write that nongovernment organizations believe that, in order to overcome the frequent indifference of policymakers to informal-sector workers, solutions to local problems should be pursued at the local level by empowering the poor. This would in time compel government to formulate and implement responsive policies. The ILO argues that empowerment of local groups is not sufficient; and that institutions must be built that facilitate dialogue and negotiations with policymakers—that is, that activity at the micro level be coordinated with macro-level policy. It insists upon the "relevance of industrial relations processes and instruments to informal sector workers."

The facts and discussion offered by ILO in reference to the informal sector do not offer much of a basis for this advice. As noted, the size and growth of this sector has been to some extent a function of the contraction of the formal sector. The trade unions, necessarily an integral component of the formal sector, have likewise declined. Trade union density in Mexico, for example, decreased by 43 percent between 1989 and 1991; by 37 percent in Columbia (1985–95); 43 percent in Venezuela (1988–95); and 18 percent in India (1980–91). These are all countries with substantial informal sectors. Such declines in the density of the trade unions, hence in their social and political weight, cannot but weaken the relevance of the tripartite industrial relations model envisioned by (and in fact at the basis of) ILO—the more so as it appears to be increasingly under pressure in the industrial countries.

Nevertheless, it is undeniable that the future of trade unions and of the labor movement they embody hinges on their untiring efforts to find paths to the inclusion, not only of regularly employed workers, but also of the growing work force employed at insecure, contingent jobs, and of the vast mass of the underemployed engaged in the informal sectors of developing countries.

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This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force; employment; unemployment; labor compensation; consumer, producer, and international prices; productivity; international comparisons; and injury and illness statistics. In the notes that follow, the data in each group of tables are briefly described; key definitions are given; notes on the data are set forth; and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years.

Seasonally adjusted data appear in tables 1–14, 16–17, 39, and 43. Seasonally adjusted labor force data in tables 1 and 4–9 were revised in the February 1998 issue of the *Review*. Seasonally adjusted establishment survey data shown in tables 1, 12–14 and 16–17 were revised in the July 1997 *Review* and reflect the experience through March 1997. A brief explanation of the seasonal adjustment methodology appears in "Notes on the data."

Revisions in the productivity data in table 45 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month-to-month and quarter-to-quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All-Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the "real" earnings shown in table 14—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current-dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1982 = 100, the hourly rate expressed in 1982 dollars is $2 ($3/150 x 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1982" dollars.

Sources of information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Definitions of each series and notes on the data are contained in later sections of these Notes describing each set of data. For detailed descriptions of each data series, see *BLS Handbook of Methods*, Bulletin 2490. Users also may wish to consult *Major Programs of the Bureau of Labor Statistics*, Report 919. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule appearing on the back cover of this issue.

More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in the Bureau's monthly publication, *Employment and Earnings*. Historical unadjusted and seasonally adjusted data from the household survey are available on the Internet:

http://stats.bls.gov/cgi-bin/dsrv?lf

Historically comparable unadjusted and seasonally adjusted data from the establishment survey also are available on the Internet:

http://stats.bls.gov/cgi-bin/dsrv?ee

Additional information on labor force data for sub-States are provided in the BLS annual report, *Geographic Profile of Employment and Unemployment*.

For a comprehensive discussion of the Employment Cost Index, see *Employment Cost Indexes and Levels, 1975–95*, BLS Bulletin 2466. The most recent data from the Employee Benefits Survey appear in the following Bureau of Labor Statistics bulletins: *Employee Benefits in Medium and Large Firms; Employee Benefits in Small Private Establishments;* and *Employee Benefits in State and Local Governments*.

More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report* and *Producer Price Indexes*. For an overview of the 1998 revision of the CPI, see the December 1996 issue of the *Monthly Labor Review*. Additional data on international prices appear in monthly news releases.

For a listing of available industry productivity indexes and their components, see *Productivity Measures for Selected Industries*, BLS Bulletin 2491.

For additional information on international comparisons data, see *International Comparisons of Unemployment*, BLS Bulletin 1979.

Detailed data on the occupational injury and illness series are published in *Occupational Injuries and Illnesses in the United States, by Industry*, a BLS annual bulletin.

Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment, and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.
p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data, but also may reflect other adjustments.

Comparative Indicators

(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonfarm payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2.

Measures of rates of change of compensation and wages from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in consumer prices for all urban consumers; producer prices by stage of processing; overall prices by stage of processing; and overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data.

Employment and Unemployment Data

(Tables 1; 4–20)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 50,000 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff are also counted among the unemployed. **The unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population. Persons **not in the labor force** are those not classified as employed or unemployed. This group includes discouraged workers, defined as persons who want and are available for a job and who have looked for work sometime in the the past 12 months (or since the end of their last job if they held one within the past 12 months), but are not currently looking, because they believe there are no jobs available or there are none for which they would qualify. The **civilian noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy. The **civilian labor force participation** rate is the proportion of the civilian noninstitutional population that is in the labor force. The **employment-population ratio** is employment as a percent of the civilian noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the intercensal years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appears in the Explanatory Notes of *Employment and Earnings*.

Labor force data in tables 1 and 4–9 are seasonally adjusted. Since January 1980, national labor force data have been seasonally adjusted with a procedure called X-11 ARIMA which was developed at Statistics Canada as an extension of the standard X-11 method previously used by BLS. A detailed description of the procedure appears in the X-11 *ARIMA Seasonal Adjustment Method,* by Estela Bee Dagum (Statistics Canada, Catalogue No. 12-564E, January 1983).

At the end of each calendar year, historical seasonally adjusted data usually are revised, and projected seasonal adjustment factors are calculated for use during the January–June period. Because of the redesign of the survey, seasonally adjusted data back to 1994 usually are revised. In July, new seasonal adjustment factors, which incorporate the experience through June, are produced for the July–December period, but no revisions are made in the historical data.

Revisions to household data

Data beginning in 1998 are not strictly comparable with data for 1997 and earlier years because of the introduction of new composite estimation procedures and updated population controls. Additional information on these revisions appears in the February 1998 issue of *Employment and Earnings*.

FOR ADDITIONAL INFORMATION on national household survey data, contact the Division of Labor Force Statistics: (202) 606–6378.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by about 390,000 establishments representing all industries except agriculture. Industries are classified in accordance with the 1987 *Standard Industrial Classification (SIC) Manual.* In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th day of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include working supervisors and nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 11–16 include production workers in manufacturing and mining; construction

workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received, and are different from standard or scheduled hours. **Overtime hours** represent the portion of average weekly hours which was in excess of regular hours and for which overtime premiums were paid.

The **Diffusion Index** represents the percent of industries in which employment was rising over the indicated period, plus one-half of the industries with unchanged employment; 50 percent indicates an equal balance between industries with increasing and decreasing employment. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. Data are centered within the span. Table 17 provides an index on private nonfarm employment based on 356 industries, and a manufacturing index based on 139 industries. These indexes are useful for measuring the dispersion of economic gains or losses and are also economic indicators.

Notes on the data

Establishment survey data are annually adjusted to comprehensive counts of employment (called "benchmarks"). The latest adjustment, which incorporated March 1996 benchmarks, was made with the release of May 1997 data, published in the July 1997 issue of the *Review*. Coincident with the benchmark adjustment, seasonally adjusted data were revised back to 1988 to reflect updated seasonal factors and seasonal adjustment procedures. Unadjusted data from April 1996 forward and seasonally adjusted data from January 1993 forward are subject to revision in future benchmarks.

Revisions in State data (table 11) occurred with the publication of January 1998 data.

Beginning in June 1996, the BLS uses the X-12 ARIMA methodology to seasonally adjust establishment survey data. This procedure, developed by the Bureau of the Census, controls for the effect of varying survey intervals (also known as the 4- versus 5-week effect), thereby providing improved measurement of over-the-month changes and underlying economic trends. Revisions of data, usually for the most recent 5-year period, are made once a year coincident with the benchmark revisions.

In the establishment survey, estimates for the most recent 2 months are based on incomplete returns and are published as preliminary in the tables (12–17 in the *Review*). When all returns have been received, the estimates are revised and published as "final" (prior to any benchmark revisions) in the third month of their appearance. Thus, December data are published as preliminary in January and February and as final in March. For the same reasons, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Thus, fourth-quarter data are published as preliminary in January and February and as final in March.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

FOR ADDITIONAL INFORMATION on establishment survey data, contact the Division of Monthly Industry Employment Statistics: (202) 606–6555.

Unemployment data by State

Description of the series

Data presented in this section are obtained from the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions, and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act. Seasonally adjusted unemployment rates are presented in table 10. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for all States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates are revised to new population controls, usually with publication of January estimates, and benchmarked to annual average CPS levels.

FOR ADDITIONAL INFORMATION on data in this series, call (202) 606–6392 (table 10) or (202) 606–6589 (table 11).

Compensation and Wage Data

(Tables 1–3; 21–27)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor.

Statistical series on total compensation costs, on wages and salaries, and on benefit costs are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. The total compensation costs and wages and salaries series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 4,400 private nonfarm establishments providing about 23,000 occupational observations and 1,000 State and local government establishments providing 6,000 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Beginning with June 1986 data, fixed employment weights from the 1980 Census of Population are used each quarter to calculate the civilian and private indexes and the index for State and local governments. (Prior to June 1986, the employment weights are from the 1970 Census of Population.) These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensa-

tion, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1980 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer's costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as Social Security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index for changes in wages and salaries in the private nonfarm economy was published beginning in 1975. Changes in total compensation cost—wages and salaries and benefits combined—were published beginning in 1980. The series of changes in wages and salaries and for total compensation in the State and local government sector and in the civilian nonfarm economy (excluding Federal employees) were published beginning in 1981. Historical indexes (June 1981=100) are available on the Internet:

http://stats.bls.gov/ecthome.htm

FOR ADDITIONAL INFORMATION on the Employment Cost Index, contact the Office of Compensation Levels and Trends: (202) 606–6199.

Employee Benefits Survey

Description of the series

Employee benefits data are obtained from the Employee Benefits Survey, an annual survey of the incidence and provisions of selected benefits provided by employers. The survey collects data from a sample of approximately 6,000 private sector and State and local government establishments. The data are presented as a percentage of employees who participate in a certain benefit, or as an average benefit provision (for example, the average number of paid holidays provided to employees per year). Selected data from the survey are presented in table 25 for medium and large private establishments and in table 26 for small private establishments and State and local government.

The survey covers paid leave benefits such as lunch and rest periods, holidays and vacations, and personal, funeral, jury duty, military, parental, and sick leave; sickness and accident, long-term disability, and life insurance; medical, dental, and vision care plans; defined benefit and defined contribution plans; flexible benefits plans; reimbursement accounts; and unpaid parental leave.

Also, data are tabulated on the incidence of several other benefits, such as severance pay, child-care assistance, wellness programs, and employee assistance programs.

Definitions

Employer-provided benefits are benefits that are financed either wholly or partly by the employer. They may be sponsored by a union or other third party, as long as there is some employer financing. However, some benefits that are fully paid for by the employee also are included. For example, long-term care insurance and postretirement life insurance paid entirely by the employee are included because the guarantee of insurability and availability at group premium rates are considered a benefit.

Participants are workers who are covered by a benefit, whether or not they use that benefit. If the benefit plan is financed wholly by employers and requires employees to complete a minimum length of service for eligibility, the workers are considered participants whether or not they have met the requirement. If workers are required to contribute towards the cost of a plan, they are considered participants only if they elect the plan and agree to make the required contributions.

Defined benefit pension plans use predetermined formulas to calculate a retirement benefit, and obligate the employer to provide those benefits. Benefits are generally based on salary, years of service, or both.

Defined contribution plans generally specify the level of employer and employee contributions to a plan, but not the formula for determining eventual benefits. Instead, individual accounts are set up for participants, and benefits are based on amounts credited to these accounts.

Tax-deferred savings plans are a type of defined contribution plan that allow participants to contribute a portion of their salary to an employer-sponsored plan and defer income taxes until withdrawal.

Flexible benefit plans allow employees to choose among several benefits, such as life insurance, medical care, and vacation days, and among several levels of care within a given benefit.

Notes on the data

Surveys of employees in medium and large establishments conducted over the 1979–86 period included establishments that employed at least 50, 100, or 250 workers, depending on the industry (most service industries were excluded). The survey conducted in 1987 covered only State and local governments with 50 or more employees. The surveys conducted in 1988 and 1989 included medium and large establishments with 100 workers or more in private industries. All surveys conducted over the 1979–89 period excluded establishments in Alaska and Hawaii, as well as part-time employees.

Beginning in 1990, surveys of State and local governments and small establishments are conducted in even-numbered years and surveys of medium and large establishments are conducted in odd-numbered years. The small establishment survey includes all private nonfarm establishments with fewer than 100 workers, while the State and local government survey includes all governments, regardless of the number of workers. All three surveys include full- and part-time workers, and workers in all 50 States and the District of Columbia.

FOR ADDITIONAL INFORMATION on the Employee Benefits Survey, contact the Office of Compensation Levels and Trends (202) 606–6222 or the Internet:

http://stats.bls.gov/ebshome.htm

Work stoppages

Description of the series

Data on work stoppages measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage. These data are presented in table 27.

Data are largely from newspaper accounts and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 work-

ers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of workdays lost by workers involved in the stoppages.

Days of idleness as a percent of esti-mated working time: Aggregate workdays lost as a percent of the aggregate number of standard workdays in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

FOR ADDITIONAL INFORMATION on work stoppages data, contact the Office of Compensation Levels and Trends: (202) 606–6282, or the Internet:

http://stats.bls.gov//lmrhome.htm

Price Data

(Tables 2; 28–38)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period—1982 = 100 for many Producer Price Indexes, 1982–84 = 100 for many Consumer Price Indexes (unless otherwise noted), and 1990 = 100 for International Price Indexes.

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all-urban consumer index (CPI-U), introduced in 1978, is representative of the 1993–95 buying habits of about 87 percent of the noninstitutional population of the United States at that time, compared with 32 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 23,000 retail establishments and 5,800 housing units in 87 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 14 major urban centers are presented in table 29. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are meaured for the CPI-U. A rental equivalence method replaced the asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of home-ownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes. An updated CPI-U and CPI-W were introduced with release of the January 1987 data.

FOR ADDITIONAL INFORMATION on consumer prices, contact the Division of Consumer Prices and Price Indexes: (202) 606–7000.

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received by domestic producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 80,000 quotations per month, selected to represent the movement of prices of all commodities produced in the manufacturing; agriculture, forestry, and fishing; mining; and gas and electricity and public utilities sectors. The stage-of-processing structure of PPI organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end use or material composition. The industry and product structure of PPI organizes data in accordance with the Standard Industrial Classification (SIC) and the product code extension of the SIC developed by the U.S. Bureau of the Census.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1992, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1987. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

FOR ADDITIONAL INFORMATION on producer prices, contact the Division of Industrial Prices and Price Indexes: (202) 606–7705.

International Price Indexes

Description of the series

The **International Price Program** produces monthly and quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts; it includes corporations, businesses, and individuals, but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected primarily by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports

and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first week of the month. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined according to the five-digit level of detail for the Bureau of Economic Analysis End-use Classification (SITC), and the four-digit level of detail for the Harmonized System. Aggregate import indexes by country or region of origin are also available.

BLS publishes indexes for selected categories of internationally traded services, calculated on an international basis and on a balance-of-payments basis.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyres type. Price relatives are assigned equal importance within each harmonized group and are then aggregated to the higher level. The values assigned to each weight category are based on trade value figures compiled by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1990.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation. An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f.(costs, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges. For a given product, only one price basis series is used in the construction of an index.

FOR ADDITIONAL INFORMATION on international prices, contact the Division of International Prices: (202) 606–7155.

Productivity Data

(Tables 2; 39–42)

Business sector and major sectors

Description of the series

The productivity measures relate real output to real input. As such, they encompass a family of measures which include single-factor input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of combined labor and capital inputs). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the quantity of goods and services produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the quantity of goods and services produced per unit of capital services input. **Multifactor productivity** is the quantity of goods and services produced per combined unit of labor and capital inputs.

Compensation per hour is total compensation divided by hours at work. Total compensation equals the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, plus an estimate of these payments for the self-employed (except for nonfinancial corporations in which there are no self-employed). **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs are the labor compensation costs expended in the production of a unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current-dollar value of output and dividing by output.

Unit nonlabor costs contain all the components of unit nonlabor payments except unit profits.

Unit profits include corporate profits with inventory valuation and capital consumption adjustments per unit of output.

Hours of all persons are the total hours at work of payroll workers, self-employed persons, and unpaid family workers.

Labor inputs are hours of all persons adjusted for the effects of changes in the education and experience of the labor force.

Capital services are the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Combined units of labor and capital inputs are derived by combining changes in labor and capital input with weights which represent each component's share of total output. The indexes for capital services, labor inputs, and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Business sector output is an annually-weighted index constructed by excluding from real gross domestic product (GDP) the following outputs: general government, nonprofit institutions, paid employees of private households, and the rental value of owner-occupied dwellings. Nonfarm business also excludes farming. Private business and private nonfarm business further exclude government enterprises. The measures are supplied by the U.S. Department of Commerce's Bureau of Economic Analysis. Annual estimates of manufacturing sectoral output are produced by the Bureau of Labor Statistics. Quarterly manufacturing output indexes from the Federal Reserve Board are adjusted to these annual output measures by the BLS. Compensation data are developed from data of the Bureau of Economic Analysis and the Bureau of Labor Statistics. Hours data are developed from data of the Bureau of Labor Statistics.

The productivity and associated cost measures in tables 39–42 describe the relationship between output in real terms and the labor and capital inputs involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input.

Although these measures relate output to

hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; shifts in the composition of the labor force; capital investment; level of output; changes in the utilization of capacity, energy, material, and research and development; the organization of production; managerial skill; and characteristics and efforts of the work force.

FOR ADDITIONAL INFORMATION on this productivity series, contact the Division of Productivity Research: (202) 606–5606.

Industry productivity measures

Description of the series

The BLS industry productivity data supplement the measures for the business economy and major sectors with annual measures of labor productivity for selected industries at the three- and four-digit levels of the Standard Industrial Classification system. The industry measures differ in methodology and data sources from the productivity measures for the major sectors because the industry measures are developed independently of the National Income and Product Accounts framework used for the major sector measures.

Definitions

Output per employee hour is derived by dividing an index of industry output by an index of aggregate hours of all employees. Output indexes are based on quantifiable units of products or services, or both, combined with value-share weights. Whenever possible, physical quantities are used as the unit of measurement for output. If quantity data are not available for a given industry, data on the constant-dollar value of production are used.

The **labor input** series consist of the hours of all employees (production and nonproduction workers), the hours of all persons (paid employees, partners, proprietors, and unpaid family workers), or the number of employees, depending upon the industry.

Notes on the data

The industry measures are compiled from data produced by the Bureau of Labor Statistics, the Departments of Commerce, Interior, and Agriculture, the Federal Reserve Board, regulatory agencies, trade associations, and other sources.

For most industries, the productivity indexes refer to the output per hour of all employees. For some transportation industries, only indexes of output per employee are prepared. For some trade and service industries, indexes of output per hour of all persons (including self-employed) are constructed.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Industry Productivity Studies: (202) 606–5618.

International Comparisons

(Tables 43–45)

Labor force and unemployment

Description of the series

Tables 43 and 44 present comparative measures of the labor force, employment, and unemployment—approximating U.S. concepts—for the United States, Canada, Australia, Japan, and several European countries. The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country.

Definitions

For the principal U.S. definitions of the **labor force**, **employment**, and **unemployment**, see the Notes section on Employment and Unemployment Data: Household survey data.

Notes on the data

The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country, rather than to the U.S. standard of 16 years of age and older. Therefore, the adjusted statistics relate to the population aged 16 and older in France, Sweden, and the United Kingdom; 15 and older in Canada, Australia, Japan, Germany, Italy from 1993 onward, and the Netherlands; and 14 and older in Italy prior to 1993. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany; it is excluded for the United States and the other countries.

In the U.S. labor force survey, persons on layoff who are awaiting recall to their jobs are classified as unemployed. European and Japanese layoff practices are quite different in nature from those in the United States; therefore, strict application of the U.S. definition has not been made on this point. For further information, see *Monthly Labor Review*, December 1981, pp. 8–11.

The figures for one or more recent years for France, Germany, Italy, the Netherlands, and the United Kingdom are calculated using adjustment factors based on labor force surveys for earlier years and are considered preliminary. The recent-year measures for these countries, therefore, are subject to revision whenever data from more current labor force surveys become available.

There are breaks in the data series for the United States (1990, 1994), France (1992), Italy (1991, 1993), the Netherlands (1988), and Sweden (1987).

For the United States, the break in series reflects a major redesign of the labor force survey questionnaire and collection methodology introduced in January 1994. Revised population estimates based on the 1990 census, adjusted for the estimated undercount, also were incorporated. In 1996, previously published data for the 1990–93 period were revised to reflect the 1990 census-based population controls, adjusted for the undercount. Therefore, data for 1994 onward are not directly comparable with data for 1993 and earlier years because of the redesign, and data for 1990 onward are not directly comparable with data for 1989 and earlier years because of the introduction of the 1990 census-based population controls, adjusted for the undercount. See the Notes section on Employment and Unemployment Data of this *Review*.

For France, the 1992 break reflects the substitution of standardized European Union Statistical Office (EUROSTAT) unemployment statistics for the unemployment data estimated according to the International Labor Office (ILO) definition and published in the Organization for Economic Cooperation and Development (OECD) annual yearbook and quarterly update. This change was made because the EUROSTAT data are more up-to-date than the OECD figures. Also, since 1992, the EUROSTAT definitions are closer to the U.S. definitions than they were in prior years. The impact of this revision was to lower the unemployment rate by 0.1 percentage point in 1992 and 1993, by 0.4 percentage point in 1994, and 0.6 percentage point in 1995.

For Italy, the 1991 break reflects a revision in the method of weighting sample data. The impact was to increase the unemployment rate by approximately 0.3 percentage point, from 6.6 to 6.9 percent in 1991.

In October 1992, the survey methodology was revised and the definition of unemployment was changed to include only those who were actively looking for a job within the 30 days preceding the survey and who

were available for work. In addition, the lower age limit for the labor force was raised from 14 to 15 years. (Prior to these changes, BLS adjusted Italy's published unemployment rate downward by excluding from the unemployed those persons who had not actively sought work in the past 30 days.) The break in the series also reflects the incorporation of the 1991 population census results. The impact of these changes was to raise Italy's adjusted unemployment rate by approximately 1.2 percentage points, from 8.3 to 9.5 percent in fourth-quarter 1992. These changes did not affect employment significantly, except in 1993. Estimates by the Italian Statistical Office indicate that employment declined by about 3 percent in 1993, rather than the nearly 4 percent indicated by the data shown in table 44. This difference is attributable mainly to the incorporation of the 1991 population benchmarks in the 1993 data. Data for earlier years have not been adjusted to incorporate the 1991 census results.

For the Netherlands, a new survey questionnaire was introduced in 1992 that allowed for a closer application of ILO guidelines. EUROSTAT has revised the Dutch series back to 1988 based on the 1992 changes. The 1988 revised unemployment rate is 7.6 percent; the previous estimate for the same year was 9.3 percent.

There have been two breaks in series in the Swedish labor force survey, in 1987 and 1993. Adjustments have been made for the 1993 break back to 1987. In 1987, a new questionnaire was introduced. Questions regarding current availability were added and the period of active workseeking was reduced from 60 days to 4 weeks. These changes lowered Sweden's 1987 unemployment rate by 0.4 percentage point, from 2.3 to 1.9 percent. In 1993, the measurement period for the labor force survey was changed to represent all 52 weeks of the year rather than one week each month and a new adjustment for population totals was introduced. The impact was to raise the unemployment rate by approximately 0.5 percentage point, from 7.6 to 8.1 percent. Statistics Sweden revised its labor force survey data for 1987–92 to take into account the break in 1993. The adjustment raised the Swedish unemployment rate by 0.2 percentage point in 1987 and gradually rose to 0.5 percentage point in 1992.

Beginning with 1987, BLS has adjusted the Swedish data to classify students who also sought work as unemployed. The impact of this change was to increase the adjusted unemployment rate by 0.1 percentage point in 1987 and by 1.8 percentage points in 1994, when unemployment was higher. By 1994, the adjusted unemployment rate had risen from 7.8 to 9.6 percent due to the adjustment to include students.

The net effect of the 1987 and 1993 changes and the BLS adjustment for students seeking work lowered Sweden's 1987 unemployment rate from 2.3 to 2.2 percent.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 606–5654.

Manufacturing productivity and labor costs

Description of the series

Table 45 presents comparative indexes of manufacturing labor productivity (output per hour), output, total hours, compensation per hour, and unit labor costs for the United States, Canada, Japan, and nine European countries. These measures are trend comparisons—that is, series that measure changes over time—rather than level comparisons. There are greater technical problems in comparing the levels of manufacturing output among countries.

BLS constructs the comparative indexes from three basic aggregate measures—output, total labor hours, and total compensation. The hours and compensation measures refer to all employed persons (wage and salary earners plus self-employed persons and unpaid family workers) in the United States, Canada, Japan, France, Germany, Norway, and Sweden, and to all employees (wage and salary earners) in the other countries.

Definitions

Output, in general, refers to value added in manufacturing from the national accounts of each country. However, the output series for Japan prior to 1970 is an index of industrial production, and the national accounts measures for the United Kingdom are essentially identical to their indexes of industrial production. While methods of deriving national accounts measures differ from country to country, BLS has reviewed these methods and determined that the series are sufficiently comparable for measuring comparative trends in productivity and unit labor costs.

The 1977–94 output data for the United States are the gross product originating (value added) measures prepared by the Bureau of Economic Analysis of the U.S. Department of Commerce. Comparable manufacturing output data currently are not available prior to 1977. The 1994–95 percent changes in manufacturing output are based on the trend shown by the industrial production index published by the U.S. Federal Reserve Board for the manufacturing sector.

U.S. gross product originating is a chain-type annual-weighted series. (For more information on the U.S. measure, see Robert E. Yuskavage, "Improved Estimates of Gross Product by Industry, 1959–94," *Survey of Current Business*, August 1996, pp. 133–55.) The Japanese value added series is based upon one set of fixed price weights for the years 1970 through 1996. Output series for the other foreign economies also employ fixed price weights, but the weights are updated periodically (for example, every 5 or 10 years).

To preserve the comparability of the U.S. measures with those for other economies, BLS uses gross product originating in manufacturing for the United States for these comparative measures. The gross product originating series differs from the manufacturing output series that BLS publishes in its news releases on quarterly measures of U.S. productivity and costs (and that underlies the measures that appear in tables 39 and 41 in this section). The quarterly measures are on a "sectoral output" basis, rather than a value-added basis. Sectoral output is gross output less intrasector transactions.

Total labor hours refers to hours worked in all countries. The measures are developed from statistics of manufacturing employment and average hours. The series used for France (from 1970 forward), Norway, and Sweden are official series published with the national accounts. Where official total hours series are not available, the measures are developed by BLS using employment figures published with the national accounts, or other comprehensive employment series, and estimates of annual hours worked. For Germany, BLS uses estimates of average hours worked developed by a research institute connected to the Ministry of Labor for use with the national accounts employment figures. For the other countries, BLS constructs its own estimates of average hours.

Denmark has not published estimates of average hours for 1994–96; therefore, the BLS measure of labor input for Denmark ends in 1993.

Total compensation (labor cost) includes all payments in cash or in-kind made directly to employees plus employer expenditures for legally required insurance programs and contractual and private benefit plans. The measures are from the national accounts of each country, except those for Belgium, which are developed by BLS using statistics on employment, average hours, and hourly compensation. For France and Sweden, compensation is increased to account for other significant taxes on payroll or employment. For the United Kingdom, compensation is reduced between 1967 and 1991 to account for employment-related subsidies. Self-employed workers are included in the all-employed-persons measures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

In general, the measures relate to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (for all years) and Italy (beginning 1970) refer to mining and manufacturing less energy-related products, and the measures for Denmark include mining and exclude manufacturing handicrafts from 1960 to 1966.

The measures for recent years may be based on current indicators of manufacturing output (such as industrial production indexes), employment, average hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 606–5654.

Occupational Injury and Illness Data

(Table 46–47)

Survey of Occupational Injuries and Illnesses

Description of the series

The Survey of Occupational Injuries and Illnesses collects data from employers about their workers' job-related nonfatal injuries and illnesses. The information that employers provide is based on records that they maintain under the Occupational Safety and Health Act of 1970. Self-employed individuals, farms with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies are excluded from the survey.

The survey is a Federal-State cooperative program with an independent sample selected for each participating State. A stratified random sample with a Neyman allocation is selected to represent all private industries in the State. The survey is stratified by Standard Industrial Classification and size of employment.

Definitions

Under the Occupational Safety and Health Act, employers maintain records of nonfatal work-related injuries and illnesses that involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment other than first aid.

Occupational injury is any injury such as a cut, fracture, sprain, or amputation that results from a work-related event or a single, instantaneous exposure in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday injuries and illnesses are cases that involve days away from work, or days of restricted work activity, or both.

Lost workdays include the number of workdays (consecutive or not) on which the employee was either away from work or at work in some restricted capacity, or both, because of an occupational injury or illness. BLS measures of the number and incidence rate of lost workdays were discontinued beginning with the 1993 survey. The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked, such as a Federal holiday, even though able to work.

Incidence rates are computed as the number of injuries and/or illnesses or lost work days per 100 full-time workers.

Notes on the data

The definitions of occupational injuries and illnesses are from *Recordkeeping Guidelines for Occupational Injuries and Illnesses* (U.S. Department of Labor, Bureau of Labor Statistics, September 1986).

Estimates are made for industries and employment size classes for total recordable cases, lost workday cases, days away from work cases, and nonfatal cases without lost workdays. These data also are shown separately for injuries. Illness data are available for seven categories: occupational skin diseases or disorders, dust diseases of the lungs, respiratory conditions due to toxic agents, poisoning (systemic effects of toxic agents), disorders due to physical agents (other than toxic materials), disorders associated with repeated trauma, and all other occupational illnesses.

The survey continues to measure the number of new work-related illness cases which are recognized, diagnosed, and reported during the year. Some conditions, for example, long-term latent illnesses caused by exposure to carcinogens, often are difficult to relate to the workplace and are not adequately recognized and reported. These long-term latent illnesses are believed to be understated in the survey's illness measure. In contrast, the overwhelming majority of the reported new illnesses are those which are easier to directly relate to workplace activity (for example, contact dermatitis and carpal tunnel syndrome).

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses per 100 equivalent full-time workers. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Full detail on the available measures is presented in the annual bulletin, *Occupational Injuries and Illnesses: Counts, Rates, and Characteristics.*

Comparable data for more than 40 States and territories are available from the BLS Office of Safety, Health and Working Conditions. Many of these States publish data on State and local government employees in addition to private industry data.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration. Data from these organizations are included in both the national and State data published annually.

With the 1992 survey, BLS began publishing details on serious, nonfatal incidents resulting in days away from work. Included are some major characteristics of the injured and ill workers, such as occupation, age, gender, race, and length of service, as well as the circumstances of their injuries and illnesses (nature of the disabling condition, part of body affected, event and exposure, and the source directly producing the condition). In general, these data are available nationwide for detailed industries and for individual States at more aggregated industry levels.

FOR ADDITIONAL INFORMATION on occupational injuries and illnesses, contact the Office of Occupational Safety, Health and Working Conditions at (202) 606–6180, or access the Internet at:

http://www.bls.gov/oshhome.htm

Census of Fatal Occupational Injuries

The Census of Fatal Occupational Injuries compiles a complete roster of fatal job-related injuries, including detailed data about the fatally injured workers and the fatal events. The program collects and cross checks fatality information from multiple sources, including death certificates, State and Federal workers' compensation reports, Occupational Safety and Health Administration and Mine Safety and Health Administration records, medical examiner and autopsy reports, media accounts, State motor vehicle fatality records, and follow-up questionnaires to employers.

In addition to private wage and salary workers, the self-employed, family members, and Federal, State, and local government workers are covered by the program. Institutionalized persons, such as prison inmates, are excluded. To be included in the

fatality census, the decedent must have been employed (that is working for pay, compensation, or profit) at the time of the event, engaged in a legal work activity, or present at the site of the incident as a requirement of his or her job.

Definition

A fatal work injury is any intentional or unintentional wound or damage to the body resulting in death from acute exposure to energy, such as heat or electricity or kinetic energy from a crash, or from the absence of such essentials as heat or oxygen caused by a specific event or incident or series of events within a single workday or shift. Fatalities that occur during a person's commute to or from work are excluded from the census, as well as work-related illnesses, which can be difficult to identify due to long latency periods.

Notes on the data

Twenty-eight data elements are collected, coded, and tabulated in the fatality program, including information about the fatally injured worker, the fatal incident, and the machinery or equipment involved. Summary worker demographic data and event characteristics are included in a national news release that is available about 8 months after the end of the reference year. The Census of Fatal Occupational Injuries was initiated in 1992 as a joint Federal-State effort. Most States issue summary information at the time of the national news release.

FOR ADDITIONAL INFORMATION on the Census of Fatal Occupational Injuries contact the BLS Office of Safety, Health, and Working Conditions at (202) 606–6175, or the Internet at:

http://www.bls.gov/oshhome.htm

1. Labor market indicators

Selected indicators	1996	1997	1996				1997			
			I	II	III	IV	I	II	III	IV
Employment data										
Employment status of the civilian noninstitutionalized population (household survey):[1]										
Labor force participation rate	66.8	67.1	66.6	66.7	66.8	67.0	67.1	67.1	67.1	67.1
Employment-population ratio	63.2	63.8	62.9	63.1	63.3	63.4	63.6	63.8	63.8	64.0
Unemployment rate	5.4	4.9	5.6	5.4	5.3	5.3	5.3	4.9	4.9	4.7
Men	5.4	4.9	5.6	5.5	5.3	5.2	5.2	4.8	4.8	4.7
16 to 24 years	12.6	11.8	13.0	12.7	12.4	12.3	12.4	11.4	11.8	11.6
25 years and over	4.1	3.6	4.3	4.1	3.9	3.9	3.9	3.6	3.5	3.4
Women	5.4	5.0	5.5	5.4	5.3	5.4	5.4	5.1	5.0	4.7
16 to 24 years	11.3	10.7	11.8	11.0	11.1	11.4	11.5	10.9	10.5	10.1
25 years and over	4.3	3.9	4.3	4.3	4.2	4.3	4.2	3.9	3.9	3.6
Employment, nonfarm (payroll data), in thousands:[1]										
Total	119,523	122,259	118,471	119,248	119,898	120,452	121,138	121,854	122,575	123,487
Private sector	100,076	102,605	99,111	99,831	100,392	100,953	101,598	102,259	102,829	103,726
Goods-producing	24,431	24,739	24,336	24,428	24,447	24,509	24,635	24,694	24,750	24,899
Manufacturing	18,457	18,537	18,473	18,467	18,443	18,444	18,476	18,504	18,541	18,633
Service-producing	95,092	97,520	94,135	94,821	95,451	95,943	96,504	97,159	97,825	98,588
Average hours:										
Private sector	34.4	34.6	34.2	34.4	34.5	34.5	34.7	34.5	34.5	34.6
Manufacturing	41.6	42.0	40.9	41.6	41.7	41.8	41.9	42.0	41.8	42.1
Overtime	4.5	4.8	4.3	4.5	4.5	4.6	4.8	4.8	4.7	4.9
Employment Cost Index[2]										
Percent change in the ECI, compensation:										
All workers (excluding farm, household and Federal workers)	2.9	3.3	.9	.7	.8	.5	.8	.6	1.0	.8
Private industry workers	3.1	3.4	.9	.9	.6	.6	.8	.8	.8	.9
Goods-producing[3]	2.8	2.4	.7	.9	.6	.6	.4	1.0	.7	.4
Service-producing[3]	3.2	3.9	1.1	.8	.7	.5	1.1	.7	1.0	1.1
State and local government workers	2.6	2.3	.5	.2	1.3	.6	.4	.1	1.3	.5
Workers by bargaining status (private industry):										
Union	2.4	2.1	.6	.9	.3	.5	.2	.6	1.1	.2
Nonunion	3.1	3.8	.9	.8	.8	.5	1.1	.8	.8	1.0

[1] Quarterly data seasonally adjusted.

[2] Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter.

[3] Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	1996	1997	1996				1997			
			I	II	III	IV	I	II	III	IV
Compensation data[1,2]										
Employment Cost Index—compensation (wages, salaries, benefits):										
Civilian nonfarm	2.9	3.3	0.9	0.7	0.8	0.5	0.8	0.6	1.0	0.8
Private nonfarm	3.1	3.4	.9	.9	.6	.6	.8	.8	.8	.9
Employment Cost Index—wages and salaries:										
Civilian nonfarm	3.3	3.8	1.0	.8	.9	.6	.9	.7	1.2	.9
Private nonfarm	3.4	3.9	1.1	1.0	.7	.6	1.0	.9	1.0	1.0
Price data[1]										
Consumer Price Index (All Urban Consumers): All items	3.3	1.7	1.4	.6	.7	.5	.9	.2	.6	.1
Producer Price Index:										
Finished goods	2.8	−1.2	.8	1.2	.1	.7	−.5	−.4	.2	−.5
Finished consumer goods	3.6	−1.4	1.0	1.6	.3	.6	−.6	−.2	.4	−.8
Capital equipment	.4	−.5	.1	−.1	−.7	1.0	.1	−.5	−.7	.6
Intermediate materials, supplies, and components	.7	−.8	−.2	1.0	.4	−.6	−.3	.1	.2	−.8
Crude materials	14.7	−11.7	3.8	3.0	−.4	7.7	−11.5	−.4	1.3	−1.0
Productivity data[3]										
Output per hour of all persons:										
Business sector	2.0	1.9	3.1	3.1	−.7	2.0	1.6	2.2	3.5	1.8
Nonfarm business sector	1.9	1.7	2.8	2.9	−.7	1.9	1.1	2.3	3.6	1.6
Nonfinancial corporations[4]	3.1	–	2.4	4.1	2.7	2.1	1.7	2.4	6.3	–

[1] Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter. Compensation and price data are not seasonally adjusted, and the price data are not compounded.

[2] Excludes Federal and private household workers.

[3] Annual rates of change are computed by comparing annual averages. Quarterly percent changes reflect annual rates of change in quarterly indexes. The data are seasonally adjusted.

[4] Output per hour of all employees.

3. Alternative measures of wage and compensation changes

Components	Quarterly average						Four quarters ending—					
	1996		1997				1996		1997			
	III	IV	I	II	III	IV	III	IV	I	II	III	IV
Average hourly compensation:[1]												
All persons, business sector	3.6	3.4	4.1	3.1	4.2	5.5	4.2	4.0	4.1	3.6	3.7	4.2
All persons, nonfarm business sector	3.3	3.4	4.3	3.2	3.8	5.2	4.0	3.9	4.0	3.5	3.7	4.1
Employment Cost Index—compensation:												
Civilian nonfarm[2]	.8	.5	.8	.6	1.0	.8	2.8	2.9	2.9	2.8	3.0	3.3
Private nonfarm	.6	.6	.8	.8	.8	.9	2.9	3.1	3.0	2.9	3.2	3.4
Union	.3	.5	.2	.6	1.1	.2	2.6	2.4	1.9	1.6	2.4	2.1
Nonunion	.8	.5	1.1	.8	.8	1.0	2.9	3.1	3.2	3.2	3.2	3.8
State and local governments	1.3	.6	.4	.1	1.3	.5	2.5	2.6	2.5	2.4	2.4	2.3
Employment Cost Index—wages and salaries:												
Civilian nonfarm[2]	.9	.6	.9	.7	1.2	.9	3.2	3.3	3.3	3.2	3.5	3.8
Private nonfarm	.7	.6	1.0	.9	1.0	1.0	3.3	3.4	3.4	3.3	3.6	3.9
Union	.5	.5	.5	.7	1.1	.5	2.7	2.6	2.6	2.2	2.8	2.8
Nonunion	.8	.6	1.1	.9	1.0	1.1	3.5	3.6	3.4	3.5	3.7	4.2
State and local governments	1.6	.6	.4	.1	1.6	.6	2.8	2.8	2.8	2.7	2.7	2.7

[1] Seasonally adjusted. "Quarterly average" is percent change from a quarter ago, at an annual rate.

[2] Excludes Federal and household workers.

4. Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1997										1998		
	1996	1997	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
TOTAL															
Civilian noninstitutional population[1]	200,591	203,133	202,513	202,674	202,832	203,000	203,166	203,364	203,570	203,767	203,941	204,098	204,238	204,400	204,547
Civilian labor force	133,943	136,297	136,115	136,043	136,060	136,206	136,294	136,404	136,439	136,406	136,864	137,169	137,493	137,557	137,523
Participation rate	66.8	67.1	67.2	67.1	67.1	67.1	67.1	67.1	67.0	66.9	67.1	67.2	67.3	67.3	67.2
Employed	126,708	129,558	129,035	129,275	129,494	129,392	129,661	129,747	129,761	129,910	130,575	130,777	131,083	131,163	130,994
Employment-population ratio[2]	63.2	63.8	63.7	63.8	63.8	63.7	63.8	63.8	63.7	63.8	64.0	64.1	64.2	64.2	64.0
Unemployed	7,236	6,739	7,080	6,768	6,566	6,814	6,633	6,657	6,678	6,496	6,289	6,392	6,409	6,393	6,529
Unemployment rate	5.4	4.9	5.2	5.0	4.8	5.0	4.9	4.9	4.9	4.8	4.6	4.7	4.7	4.6	4.7
Not in the labor force	66,647	66,837	66,398	66,631	66,772	66,794	66,872	66,960	67,131	67,361	67,077	66,929	66,745	66,844	67,024
Men, 20 years and over															
Civilian noninstitutional population[1]	88,606	89,879	89,604	89,680	89,776	89,829	89,888	89,982	90,068	90,140	90,251	90,339	90,391	90,476	90,502
Civilian labor force	68,044	69,166	69,040	69,107	68,990	69,157	69,171	69,198	69,136	69,193	69,500	69,561	69,652	69,601	69,451
Participation rate	76.8	77.0	77.1	77.1	76.9	77.0	77.0	76.9	76.8	76.8	77.0	77.0	77.1	76.9	76.7
Employed	64,897	66,284	66,031	66,198	66,309	66,258	66,361	66,386	66,298	66,337	66,824	66,676	67,008	66,990	66,753
Employment-population ratio[2]	73.2	73.7	73.7	73.8	73.9	73.8	73.8	73.8	73.6	73.6	74.0	73.8	74.1	74.0	73.8
Agriculture	2,356	2,356	2,357	2,411	2,402	2,398	2,390	2,311	2,383	2,298	2,323	2,314	2,282	2,264	2,168
Nonagricultural industries	62,541	63,927	63,674	63,787	63,907	63,860	63,971	64,075	63,915	64,039	64,501	64,362	64,726	64,726	64,585
Unemployed	3,146	2,882	3,009	2,909	2,681	2,899	2,810	2,812	2,838	2,856	2,676	2,885	2,644	2,611	2,699
Unemployment rate	4.6	4.2	4.4	4.2	3.9	4.2	4.1	4.1	4.1	4.1	3.9	4.1	3.8	3.8	3.9
Women, 20 years and over															
Civilian noninstitutional population[1]	97,050	97,889	97,638	97,685	97,767	97,834	97,919	98,000	98,082	98,144	98,212	98,300	98,420	98,471	98,534
Civilian labor force	58,094	59,198	59,070	58,975	59,129	59,195	59,232	59,362	59,432	59,338	59,348	59,624	59,652	59,721	59,771
Participation rate	59.9	60.5	60.5	60.4	60.5	60.5	60.5	60.6	60.6	60.5	60.4	60.7	60.6	60.6	60.7
Employed	55,311	56,613	56,322	56,357	56,488	56,575	56,693	56,789	56,883	56,919	56,953	57,255	57,040	57,146	57,186
Employment-population ratio[2]	57.0	57.8	57.7	57.7	57.8	57.8	57.9	57.9	58.0	58.0	58.0	58.2	58.0	58.0	58.0
Agriculture	827	798	752	775	760	755	831	824	826	814	833	845	811	801	717
Nonagricultural industries	54,484	55,815	55,570	55,582	55,728	55,820	55,862	55,965	56,057	56,105	56,120	56,410	56,229	56,345	56,470
Unemployed	2,783	2,585	2,748	2,618	2,641	2,620	2,539	2,573	2,549	2,419	2,395	2,369	2,612	2,575	2,585
Unemployment rate	4.8	4.4	4.7	4.4	4.5	4.4	4.3	4.3	4.3	4.1	4.0	4.0	4.4	4.3	4.3
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	14,934	15,365	15,271	15,309	15,300	15,336	15,359	15,382	15,420	15,483	15,478	15,459	15,427	15,453	15,511
Civilian labor force	7,806	7,932	8,005	7,961	7,941	7,854	7,891	7,844	7,871	7,875	8,016	7,984	8,189	8,235	8,300
Participation rate	52.3	51.6	52.4	52.0	51.9	51.2	51.4	51.0	51.0	50.9	51.8	51.6	53.1	53.3	53.5
Employed	6,500	6,661	6,682	6,720	6,697	6,559	6,607	6,572	6,580	6,654	6,798	6,846	7,035	7,028	7,055
Employment-population ratio[2]	43.5	43.4	43.8	43.9	43.8	42.8	43.0	42.7	42.7	43.0	43.9	44.3	45.6	45.5	45.5
Agriculture	261	244	278	276	256	236	231	244	213	215	228	226	227	270	247
Nonagricultural industries	6,239	6,417	6,404	6,444	6,441	6,323	6,376	6,328	6,367	6,439	6,570	6,620	6,809	6,758	6,808
Unemployed	1,306	1,271	1,323	1,241	1,244	1,295	1,284	1,272	1,291	1,221	1,218	1,138	1,154	1,207	1,245
Unemployment rate	16.7	16.0	16.5	15.6	15.7	16.5	16.3	16.2	16.4	15.5	15.2	14.3	14.1	14.7	15.0
White															
Civilian noninstitutional population[1]	168,317	169,993	169,569	169,675	169,782	169,897	170,010	170,148	170,290	170,427	170,545	170,649	170,810	170,917	171,016
Civilian labor force	113,108	114,693	114,597	114,567	114,562	114,659	114,622	114,669	114,758	114,784	115,073	115,263	115,253	115,392	115,297
Participation rate	67.2	67.5	67.6	67.5	67.5	67.5	67.4	67.4	67.4	67.4	67.5	67.5	67.5	67.5	67.4
Employed	107,808	109,856	109,528	109,721	109,906	109,779	109,851	109,832	109,904	110,063	110,604	110,729	110,689	110,842	110,605
Employment-population ratio[2]	64.1	64.6	64.6	64.7	64.7	64.6	64.6	64.6	64.5	64.6	64.9	64.9	64.8	64.9	64.7
Unemployed	5,300	4,836	5,069	4,846	4,656	4,880	4,771	4,837	4,854	4,721	4,469	4,534	4,555	4,550	4,692
Unemployment rate	4.7	4.2	4.4	4.2	4.1	4.3	4.2	4.2	4.2	4.1	3.9	3.9	4.0	3.9	4.1
Black															
Civilian noninstitutional population[1]	23,604	24,003	23,895	23,923	23,950	23,978	24,006	24,043	24,081	24,117	24,149	24,180	24,196	24,229	24,257
Civilian labor force	15,134	15,529	15,438	15,389	15,424	15,426	15,524	15,728	15,691	15,555	15,638	15,709	15,788	15,885	15,971
Participation rate	64.1	64.7	64.6	64.3	64.4	64.3	64.7	65.4	65.2	64.5	64.8	65.0	65.3	65.6	65.8
Employed	13,542	13,969	13,816	13,864	13,837	13,836	14,040	14,237	14,180	14,067	14,128	14,149	14,316	14,349	14,498
Employment-population ratio[2]	57.4	58.2	57.8	58.0	57.8	57.7	58.5	59.2	28.9	58.3	58.5	58.5	59.2	59.2	59.8
Unemployed	1,592	1,560	1,622	1,525	1,587	1,590	1,484	1,491	1,511	1,488	1,510	1,560	1,472	1,535	1,473
Unemployment rate	10.5	10.0	10.5	9.9	10.3	10.3	9.6	9.5	9.6	9.6	9.7	9.9	9.3	9.7	9.2

See footnotes at end of table.

4. Continued—Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1997										1998		
	1996	1997	Mar	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Hispanic origin															
Civilian noninstitutional population[1]	19,213	20,321	20,119	20,180	20,236	20,293	20,351	20,407	20,464	20,519	20,575	20,629	20,741	20,798	20,851
Civilian labor force	12,774	13,796	13,666	13,601	13,760	13,814	13,861	13,886	13,861	13,896	13,880	13,973	13,954	14,149	14,298
Participation rate	66.5	67.9	67.9	67.4	68.0	68.1	68.1	68.0	67.7	67.7	67.5	67.7	67.3	68.0	68.6
Employed	11,642	12,726	12,533	12,514	12,713	12,751	12,772	12,867	12,807	12,806	12,921	12,921	12,988	13,181	13,305
Employment-population ratio[2]	60.6	62.6	62.3	62.0	62.8	62.8	62.8	63.1	62.6	62.4	62.8	62.6	62.6	63.4	63.8
Unemployed	1,132	1,069	1,133	1,087	1,047	1,063	1,089	1,019	1,054	1,090	959	1,052	966	968	993
Unemployment rate	8.9	7.7	8.3	8.0	7.6	7.7	7.9	7.3	7.6	7.8	6.9	7.5	6.9	6.8	6.9

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

5. Selected employment indicators, monthly data seasonally adjusted

[In thousands]

Selected categories	Annual average		1997										1998		
	1996	1997	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Characteristic															
Employed, 16 years and over	126,708	129,558	129,035	129,275	129,494	129,392	129,661	129,747	129,761	129,910	130,575	130,777	131,083	131,163	130,994
Men	68,207	69,685	69,415	69,565	69,765	69,586	69,711	69,748	69,656	69,785	70,352	70,195	70,518	70,459	70,297
Women	58,501	59,873	59,620	59,710	59,729	59,806	59,950	59,999	60,105	60,125	60,223	60,582	60,565	60,704	60,697
Married men, spouse present	42,417	42,642	42,502	42,426	42,357	42,476	42,582	42,680	42,648	42,771	42,967	42,952	42,977	42,915	42,779
Married women, spouse present	32,406	32,755	32,690	32,549	32,520	32,654	32,813	32,861	32,846	32,978	32,840	32,975	32,793	32,821	32,872
Women who maintain families	7,363	7,775	7,696	7,790	7,820	7,820	7,875	7,892	7,876	7,865	7,726	7,822	7,784	7,884	7,776
Class of worker															
Agriculture:															
Wage and salary workers	1,869	1,890	1,901	1,952	1,917	1,912	1,897	1,853	1,889	1,815	1,855	1,844	1,949	1,928	1,866
Self-employed workers	1,518	1,457	1,433	1,438	1,442	1,429	1,478	1,477	1,495	1,475	1,493	1,496	1,348	1,324	1,242
Unpaid family workers	56	51	59	62	52	47	52	50	44	55	49	54	44	41	32
Nonagricultural industries:															
Wage and salary workers	114,171	116,983	116,413	116,515	116,874	116,642	117,146	117,372	117,303	117,635	118,083	118,403	118,529	118,961	119,131
Government	18,217	18,131	18,067	18,048	17,863	18,113	18,303	18,203	18,109	18,075	18,170	18,248	18,421	18,378	18,072
Private industries	95,954	98,852	98,346	98,467	99,011	98,529	98,843	99,169	99,194	99,560	99,913	100,155	100,108	100,583	101,058
Private households	928	915	882	923	948	888	911	935	877	877	910	946	985	1,035	1,022
Other	95,025	97,937	97,464	97,544	98,063	97,641	97,932	98,234	98,317	98,683	99,003	99,209	99,123	99,547	100,037
Self-employed workers	8,971	9,056	9,219	9,124	9,098	9,089	8,927	8,955	8,949	8,930	9,004	8,886	8,964	8,761	8,784
Unpaid family workers	122	120	109	133	142	128	129	126	83	92	97	99	131	117	102
Persons at work part time[1]															
All industries:															
Part time for economic reasons	4,315	4,068	4,162	4,360	4,060	4,049	4,019	3,988	3,928	3,913	3,890	3,855	4,082	3,882	3,902
Slack work or business conditions	2,388	2,286	2,340	2,402	2,295	2,347	2,236	2,164	2,187	2,211	2,221	2,230	2,282	2,123	2,188
Could only find part-time work	1,605	1,468	1,519	1,625	1,440	1,373	1,489	1,487	1,455	1,406	1,386	1,323	1,400	1,455	1,445
Part time for noneconomic reasons	17,770	18,149	18,144	18,155	18,218	18,205	18,055	18,096	17,901	18,113	18,083	18,386	18,515	18,407	18,448
Nonagricultural industries:															
Part time for economic reasons	4,123	3,879	3,957	4,204	3,853	3,819	3,858	3,832	3,739	3,732	3,689	3,654	3,865	3,743	3,726
Slack work or business conditions	2,263	2,167	2,210	2,279	2,166	2,202	2,121	2,066	2,067	2,103	2,100	2,113	2,162	2,025	2,057
Could only find part-time work	1,576	1,433	1,484	1,599	1,402	1,320	1,462	1,455	1,417	1,378	1,346	1,291	1,373	1,433	1,416
Part time for noneconomic reasons	17,150	17,564	17,559	17,588	17,654	17,577	17,452	17,521	17,381	17,537	17,486	17,791	17,898	17,786	17,929

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

6. Selected unemployment indicators, monthly data seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1997										1998		
	1996	1997	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Characteristic															
Total, all workers	5.4	4.9	5.2	5.0	4.8	5.0	4.9	4.9	4.9	4.8	4.6	4.7	4.7	4.6	4.7
Both sexes, 16 to 19 years	16.7	16.0	16.5	15.6	15.7	16.5	16.3	16.2	16.4	15.5	15.2	14.3	14.1	14.7	15.0
Men, 20 years and over	4.6	4.2	4.4	4.2	3.9	4.2	4.1	4.1	4.1	4.1	3.9	4.1	3.8	3.8	3.9
Women, 20 years and over	4.8	4.4	4.7	4.4	4.5	4.4	4.3	4.3	4.3	4.1	4.0	4.0	4.4	4.3	4.3
White, total	4.7	4.2	4.4	4.2	4.1	4.3	4.2	4.2	4.2	4.1	3.9	3.9	4.0	3.9	4.1
Both sexes, 16 to 19 years	14.2	13.6	14.1	13.5	12.9	14.4	14.4	14.2	14.1	13.4	12.3	11.2	11.6	12.3	12.8
Men, 16 to 19 years	15.5	14.3	15.1	14.6	13.0	15.8	15.0	15.1	14.4	14.3	12.8	11.3	14.2	14.7	14.9
Women, 16 to 19 years	12.9	12.8	13.0	12.2	12.7	12.8	13.7	13.1	13.7	12.3	11.6	11.1	8.8	9.8	10.6
Men, 20 years and over	4.1	3.6	3.8	3.6	3.3	3.6	3.5	3.6	3.6	3.6	3.4	3.6	3.3	3.2	3.4
Women, 20 years and over	4.1	3.7	3.9	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.4	3.4	3.7	3.6	3.7
Black, total	10.5	10.0	10.5	9.9	10.3	10.3	9.6	9.5	9.6	9.6	9.7	9.9	9.3	9.7	9.2
Both sexes, 16 to 19 years	33.6	32.4	32.1	31.9	33.9	32.2	30.0	30.4	32.7	29.5	33.3	34.4	30.1	31.5	29.1
Men, 16 to 19 years	36.9	36.5	40.5	37.7	34.5	39.1	34.6	33.9	37.6	30.1	35.0	36.2	31.8	34.7	27.8
Women, 16 to 19 years	30.3	28.7	34.6	26.3	33.3	25.5	25.9	27.2	28.6	28.8	31.9	33.1	28.5	28.4	30.3
Men, 20 years and over	9.4	8.5	8.9	8.4	8.4	9.0	8.3	7.9	7.9	8.3	7.8	8.6	7.9	7.8	7.6
Women, 20 years and over	8.7	8.8	9.2	8.6	9.2	9.0	8.4	8.4	8.4	8.3	8.4	8.1	8.0	8.6	8.2
Hispanic origin, total	8.9	7.7	8.3	8.0	7.6	7.7	7.9	7.3	7.6	7.8	6.9	7.5	6.9	6.8	6.9
Married men, spouse present	3.0	2.7	2.8	2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.4	2.6	2.6	2.5	2.5
Married women, spouse present	3.6	3.1	3.3	3.2	3.2	3.2	3.1	3.0	3.1	2.8	2.8	2.8	3.1	3.1	3.3
Women who maintain families	8.2	8.1	8.7	7.9	7.9	8.0	7.6	8.0	7.8	7.8	8.1	7.7	7.6	7.6	7.6
Full-time workers	5.3	4.8	5.1	4.8	4.8	4.9	4.8	4.7	4.7	4.7	4.4	4.6	4.5	4.5	4.5
Part-time workers	5.8	5.5	5.7	5.6	5.3	5.3	5.4	5.5	5.5	5.3	5.4	5.0	5.4	5.2	5.7
Industry															
Nonagricultural wage and salary workers	5.5	5.0	5.2	5.0	5.0	5.0	4.9	5.0	5.0	4.8	4.7	4.8	4.7	4.7	4.7
Mining	5.1	3.8	3.9	2.3	3.3	2.8	4.1	4.9	3.4	4.5	3.3	3.3	4.0	2.6	3.7
Construction	10.1	9.0	9.4	8.8	8.6	8.8	8.7	9.0	8.7	8.7	7.9	8.9	7.9	7.8	8.6
Manufacturing	4.8	4.2	4.3	4.4	4.3	4.2	4.3	4.1	4.1	3.8	3.8	3.8	3.9	3.7	3.8
Durable goods	4.5	3.5	3.7	3.6	3.6	3.6	3.5	3.5	3.3	3.1	3.1	3.1	3.4	2.9	3.6
Nondurable goods	5.2	5.1	5.3	5.5	5.3	5.0	5.4	5.0	5.3	4.8	4.4	4.9	4.5	5.0	4.2
Transportation and public utilities	4.1	3.5	3.9	2.9	3.6	3.0	3.4	3.7	3.8	3.3	3.1	3.3	3.8	3.2	3.3
Wholesale and retail trade	6.4	6.2	6.3	6.2	6.1	6.4	6.1	6.2	6.2	6.1	6.2	5.8	5.9	5.8	5.4
Finance, insurance, and real estate	2.7	3.0	3.2	3.3	3.1	2.5	3.1	3.0	3.0	2.9	2.4	2.8	2.6	2.6	2.6
Services	5.4	4.6	4.9	4.6	4.7	4.7	4.4	4.5	4.6	4.3	4.4	4.5	4.3	4.7	4.7
Government workers	2.9	2.6	2.8	2.4	2.5	2.8	2.7	2.6	2.6	2.4	2.3	2.1	2.4	2.3	2.9
Agricultural wage and salary workers	10.2	9.1	9.3	9.5	7.6	10.4	8.4	8.9	9.0	9.6	8.6	9.7	10.6	8.6	9.7
Educational attainment[1]															
Less than a high school diploma	8.7	8.1	8.4	8.2	8.2	8.2	7.8	7.7	8.0	7.7	7.5	7.6	7.2	7.0	7.2
High school graduates, no college	4.7	4.3	4.4	4.2	4.2	4.4	4.2	4.3	4.2	4.2	3.8	4.1	3.9	4.0	4.2
Some college, less than a bachelor's degree	3.7	3.3	3.6	3.3	3.0	3.2	3.2	3.2	3.2	2.9	3.1	3.2	3.2	3.1	3.3
College graduates	2.2	2.0	2.1	2.0	2.1	2.1	2.1	2.1	2.0	1.9	1.8	1.8	1.9	1.9	1.9

[1] Data refer to persons 25 years and over.

7. Duration of unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1997										1998		
	1996	1997	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Less than 5 weeks	2,633	2,538	2,618	2,471	2,542	2,541	2,446	2,564	2,484	2,558	2,423	2,531	2,488	2,622	2,858
5 to 14 weeks	2,287	2,138	2,325	2,177	2,067	2,188	2,097	2,121	2,115	1,912	2,048	1,922	1,971	1,909	1,979
15 weeks and over	2,316	2,062	2,079	2,088	2,076	2,069	2,128	2,027	2,109	1,990	1,865	1,964	1,811	1,830	1,731
15 to 26 weeks	1,053	995	1,003	1,033	1,054	1,031	1,061	950	1,031	919	899	936	773	855	841
27 weeks and over	1,262	1,067	1,076	1,055	1,022	1,038	1,067	1,077	1,078	1,071	966	1,028	1,038	974	891
Mean duration, in weeks	16.7	15.8	15.4	15.4	15.3	15.3	16.5	15.8	15.9	16.3	15.6	16.3	15.6	15.6	14.3
Median duration, in weeks	8.3	8.0	7.9	8.1	7.8	7.9	8.2	7.9	8.1	7.7	7.8	7.7	6.8	6.8	6.8

8. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Reason for unemployment	Annual average		1997										1998		
	1996	1997	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Job losers[1]	3,370	3,037	3,148	3,038	2,961	3,094	2,954	3,010	3,007	2,934	2,886	2,991	2,807	2,795	2,980
On temporary layoff	1,021	931	993	958	909	928	894	891	893	963	815	961	860	821	980
Not on temporary layoff	2,349	2,106	2,155	2,080	2,052	2,166	2,060	2,119	2,114	1,971	2,071	2,030	1,947	1,975	2,000
Job leavers	774	795	797	776	808	827	812	894	853	732	655	692	808	786	744
Reentrants	2,512	2,338	2,497	2,422	2,338	2,333	2,263	2,173	2,263	2,247	2,229	2,170	2,229	2,266	2,215
New entrants	580	569	617	569	573	510	564	554	560	555	560	552	518	543	549
Percent of unemployed															
Job losers[1]	46.6	45.1	44.6	44.6	44.3	45.7	44.8	45.4	45.0	45.4	45.6	46.7	44.1	43.7	45.9
On temporary layoff	14.1	13.8	14.1	14.1	13.6	13.7	13.6	13.4	13.4	14.9	12.9	15.0	13.5	12.8	15.1
Not on temporary layoff	32.5	31.3	30.5	30.6	30.7	32.0	31.2	32.0	31.6	30.5	32.7	31.7	30.6	30.9	30.8
Job leavers	10.7	11.8	11.3	11.4	12.1	12.2	12.3	13.5	12.8	11.3	10.3	10.8	12.7	12.3	11.5
Reentrants	34.7	34.7	35.4	35.6	35.0	34.5	34.3	32.8	33.9	34.7	35.2	33.9	35.0	35.5	34.1
New entrants	8.0	8.4	8.7	8.4	8.6	7.5	8.6	8.4	8.4	8.6	8.8	8.6	8.1	8.5	8.5
Percent of civilian labor force															
Job losers[1]	2.5	2.2	2.3	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.1	2.2	2.0	2.0	2.2
Job leavers	.6	.6	.6	.6	.6	.6	.6	.7	.6	.5	.5	.5	.6	.6	.5
Reentrants	1.9	1.7	1.8	1.8	1.7	1.7	1.7	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.6
New entrants	.4	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4

[1] Includes persons who completed temporary jobs.

9. Unemployment rates by sex and age, monthly data seasonally adjusted

[Civilian workers]

Sex and age	Annual average		1997										1998		
	1996	1997	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Total, 16 years and over	5.4	4.9	5.2	5.0	4.8	5.0	4.9	4.9	4.9	4.8	4.6	4.7	4.7	4.6	4.7
16 to 24 years	12.0	11.3	11.7	11.3	11.0	11.4	11.0	11.3	11.2	11.1	10.9	10.6	10.8	10.8	10.7
16 to 19 years	16.7	16.0	16.5	15.6	15.7	16.5	16.3	16.2	16.4	15.5	15.2	14.3	14.1	14.7	15.0
16 to 17 years	18.9	18.2	19.0	18.4	18.3	17.3	17.9	17.9	19.3	17.5	17.6	17.7	17.3	18.5	16.9
18 to 19 years	15.2	14.5	14.9	13.6	13.9	15.9	15.5	15.4	14.5	14.1	13.6	11.7	11.6	11.3	13.7
20 to 24 years	9.3	8.5	8.9	8.8	8.2	8.4	7.9	8.4	8.2	8.5	8.4	8.5	8.9	8.5	8.0
25 years and over	4.2	3.8	4.0	3.7	3.7	3.8	3.7	3.7	3.7	3.6	3.4	3.6	3.5	3.5	3.6
25 to 54 years	4.3	3.9	4.1	3.8	3.9	3.9	3.8	3.8	3.8	3.7	3.5	3.7	3.6	3.6	3.8
55 years and over	3.4	3.0	3.3	2.9	2.9	3.1	3.0	3.0	3.1	2.8	2.8	2.8	2.7	2.7	2.9
Men, 16 years and over	5.4	4.9	5.1	4.9	4.5	5.0	4.8	4.8	4.8	4.8	4.5	4.7	4.5	4.5	4.6
16 to 24 years	12.6	11.8	12.1	11.8	10.7	11.9	11.5	11.9	12.0	12.0	11.6	11.1	11.2	11.7	11.2
16 to 19 years	18.1	16.9	17.9	17.4	15.7	18.2	17.2	17.3	17.2	16.3	15.6	14.2	16.4	17.0	16.5
16 to 17 years	20.8	19.1	20.9	20.2	18.5	19.7	18.8	18.1	18.8	18.2	18.2	18.4	18.3	21.0	18.5
18 to 19 years	16.3	15.4	16.1	15.5	14.0	17.4	16.1	17.3	16.1	14.8	14.1	11.1	14.9	13.1	15.2
20 to 24 years	9.5	8.9	8.8	8.7	7.8	8.3	8.3	8.8	9.1	9.5	9.3	9.3	8.1	8.7	8.1
25 years and over	4.1	3.6	3.8	3.7	3.5	3.7	3.6	3.6	3.5	3.5	3.2	3.5	3.3	3.2	3.4
25 to 54 years	4.2	3.7	3.9	3.8	3.6	3.8	3.7	3.6	3.6	3.6	3.3	3.6	3.4	3.2	3.5
55 years and over	3.3	3.1	3.4	2.9	2.9	3.1	3.0	3.1	3.0	3.0	2.9	3.4	3.1	2.9	3.1
Women, 16 years and over	5.4	5.0	5.3	5.0	5.1	5.0	5.0	5.0	5.0	4.7	4.7	4.6	4.8	4.8	4.9
16 to 24 years	11.3	10.7	11.2	10.8	11.3	10.8	10.4	10.6	10.4	10.1	10.1	10.2	10.4	9.8	10.1
16 to 19 years	15.2	15.0	15.0	13.7	15.6	14.7	15.3	15.0	15.5	14.7	14.7	14.3	11.6	12.3	13.4
16 to 17 years	16.9	17.2	17.0	16.6	18.1	14.7	16.9	17.7	19.8	16.7	17.0	17.0	16.3	16.0	15.2
18 to 19 years	14.0	13.6	13.7	11.6	13.9	14.2	14.8	13.3	12.8	13.4	13.0	12.4	8.2	9.5	12.2
20 to 24 years	9.0	8.1	8.9	9.0	8.7	8.5	7.5	7.9	7.3	7.4	7.4	7.6	9.7	8.3	7.9
25 years and over	4.3	3.9	4.2	3.8	4.0	3.9	3.9	3.9	4.0	3.7	3.6	3.6	3.7	3.8	3.9
25 to 54 years	4.4	4.1	4.3	3.9	4.2	4.1	4.0	4.0	4.1	3.8	3.8	3.9	3.9	4.1	4.1
55 years and over	3.5	2.9	3.1	3.0	3.0	3.1	3.0	3.0	3.2	2.7	2.6	2.1	2.3	2.4	2.6

10. Unemployment rates by State, seasonally adjusted

State	Feb. 1997	Jan. 1998	Feb. 1998[p]	State	Feb. 1997	Jan. 1998	Feb. 1998[p]
Alabama	5.2	4.1	3.8	Missouri	4.6	4.0	4.1
Alaska	8.3	6.2	6.3	Montana	5.2	5.4	5.2
Arizona	5.2	3.7	4.0	Nebraska	3.0	1.8	1.9
Arkansas	5.5	5.3	5.2	Nevada	4.4	4.3	4.5
California	6.6	6.0	5.8	New Hampshire	3.3	2.7	2.8
Colorado	3.5	2.8	3.0	New Jersey	5.3	4.9	5.0
Connecticut	5.5	3.8	3.8	New Mexico	6.7	6.1	6.2
Delaware	4.6	3.4	3.5	New York	6.5	6.0	6.2
District of Columbia	7.7	8.4	9.0	North Carolina	3.7	3.6	3.6
Florida	4.8	4.7	4.5	North Dakota	2.7	1.8	1.9
Georgia	4.8	4.0	4.1	Ohio	5.0	4.0	4.1
Hawaii	6.6	5.6	5.7	Oklahoma	4.2	3.3	3.6
Idaho	5.4	5.0	5.1	Oregon	6.2	5.2	4.7
Illinois	4.8	4.9	4.6	Pennsylvania	5.3	4.6	4.7
Indiana	3.4	3.3	3.2	Rhode Island	5.4	4.8	4.8
Iowa	3.6	2.8	2.6	South Carolina	5.3	3.9	3.4
Kansas	4.0	3.5	3.4	South Dakota	3.3	2.8	2.6
Kentucky	5.8	4.6	4.1	Tennessee	5.4	4.4	4.3
Louisiana	6.1	5.1	4.3	Texas	5.6	4.9	4.6
Maine	5.4	5.0	4.5	Utah	3.3	2.9	2.8
Maryland	5.0	4.8	4.7	Vermont	4.2	3.6	3.5
Massachusetts	4.0	3.6	3.3	Virginia	4.2	3.3	3.2
Michigan	4.5	3.9	4.0	Washington	5.1	4.5	4.1
Minnesota	3.4	2.7	2.5	West Virginia	7.3	6.1	5.8
Mississippi	6.0	5.4	5.4	Wisconsin	3.7	3.2	3.1
				Wyoming	5.3	4.2	4.0

[p] = preliminary

11. Employment of workers on nonfarm payrolls by State, seasonally adjusted

[In thousands]

State	Feb. 1997	Jan. 1998	Feb. 1998[p]	State	Feb. 1997	Jan. 1998	Feb. 1998[p]
Alabama	1,852.2	1,876.5	1,875.8	Missouri	2,617.6	2,664.4	2,664.4
Alaska	266.5	270.2	273.2	Montana	362.7	368.7	370.6
Arizona	1,946.9	2,031.5	2,039.9	Nebraska	844.6	874.0	877.3
Arkansas	1,093.8	1,110.5	1,113.0	Nevada	878.2	907.0	911.8
California	12,959.7	13,401.2	13,437.5	New Hampshire	562.9	572.7	572.4
Colorado	1,949.1	2,017.8	2,020.1	New Jersey	3,695.9	3,771.3	3,783.8
Connecticut	1,603.9	1,639.6	1,642.0	New Mexico	701.3	712.7	714.2
Delaware	383.3	394.6	396.5	New York	7,983.5	8,082.4	8,097.9
District of Columbia	618.7	613.1	609.7	North Carolina	3,623.2	3,719.6	3,733.1
Florida	6,323.7	6,566.0	6,578.3	North Dakota	312.4	317.4	318.8
Georgia	3,574.5	3,690.7	3,704.4	Ohio	5,345.5	5,439.2	5,438.4
Hawaii	532.0	528.6	528.5	Oklahoma	1,376.3	1,405.7	1,410.3
Idaho	503.3	515.1	514.4	Oregon	1,510.9	1,551.8	1,555.4
Illinois	5,729.7	5,837.8	5,834.2	Pennsylvania	5,380.1	5,453.9	5,457.2
Indiana	2,846.9	2,874.6	2,880.7	Rhode Island	446.0	452.7	454.6
Iowa	1,395.0	1,423.0	1,424.5	South Carolina	1,707.8	1,763.5	1,766.1
Kansas	1,250.5	1,291.5	1,293.4	South Dakota	351.4	354.9	355.2
Kentucky	1,698.5	1,738.5	1,736.6	Tennessee	2,561.4	2,618.6	2,612.2
Louisiana	1,830.3	1,870.5	1,874.2	Texas	8,474.3	8,755.4	8,801.2
Maine	547.0	558.1	561.0	Utah	980.6	1,015.6	1,019.2
Maryland	2,248.6	2,282.0	2,282.5	Vermont	277.3	279.3	279.7
Massachusetts	3,089.2	3,173.0	3,185.2	Virginia	3,205.2	3,280.0	3,292.7
Michigan	4,418.2	4,495.7	4,508.8	Washington	2,478.7	2,546.0	2,558.9
Minnesota	2,461.0	2,514.1	2,521.4	West Virginia	704.9	715.3	715.8
Mississippi	1,097.5	1,117.6	1,119.2	Wisconsin	2,629.4	2,691.4	2,692.4
				Wyoming	222.1	222.8	222.8

[p] = preliminary

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the data base.

12. Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		1997										1998		
	1996	1997	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[p]	Mar.[p]
TOTAL	119,523	122,259	121,344	121,671	121,834	122,056	122,440	122,492	122,792	123,083	123,512	123,866	124,265	124,517	124,481
PRIVATE SECTOR	100,076	102,605	101,799	102,092	102,269	102,417	102,721	102,688	103,078	103,334	103,749	104,096	104,484	104,705	104,674
GOODS-PRODUCING	24,431	24,739	24,670	24,667	24,702	24,714	24,713	24,765	24,771	24,814	24,888	24,995	25,139	25,172	25,086
Mining	574	574	572	573	576	574	574	573	576	574	572	574	574	572	571
Metal mining	54	54	54	54	54	54	54	54	54	53	54	53	52	52	52
Oil and gas extraction	317	320	317	319	321	320	321	321	323	323	322	323	324	324	323
Nonmetallic minerals, except fuels	106	108	108	107	108	108	108	107	108	107	106	108	108	107	107
Construction	5,400	5,629	5,609	5,599	5,628	5,622	5,625	5,637	5,642	5,650	5,682	5,747	5,843	5,877	5,789
General building contractors	1,254	1,306	1,298	1,297	1,300	1,302	1,308	1,306	1,305	1,311	1,327	1,343	1,363	1,368	1,363
Heavy construction, except building	770	768	777	767	777	766	761	764	762	758	759	774	782	792	771
Special trades contractors	3,377	3,554	3,534	3,535	3,551	3,554	3,556	3,567	3,575	3,581	3,596	3,630	3,698	3,717	3,655
Manufacturing	18,457	18,537	18,489	18,495	18,498	18,518	18,514	18,555	18,553	18,590	18,634	18,674	18,722	18,723	18,726
Production workers	12,749	12,809	12,771	12,774	12,790	12,791	12,792	12,815	12,818	12,851	12,882	12,913	12,944	12,947	12,940
Durable goods	10,766	10,915	10,848	10,856	10,864	10,891	10,910	10,957	10,952	10,985	11,020	11,048	11,093	11,102	11,103
Production workers	7,370	7,489	7,437	7,440	7,454	7,466	7,482	7,525	7,518	7,545	7,570	7,593	7,623	7,632	7,629
Lumber and wood products	780	798	797	799	800	797	796	798	798	800	800	806	808	809	808
Furniture and fixtures	504	509	507	506	508	508	510	506	508	509	511	513	516	519	521
Stone, clay, and glass products	541	542	542	541	540	538	541	541	541	543	542	543	550	549	546
Primary metal industries	711	711	709	710	708	709	708	711	713	716	716	717	719	720	720
Fabricated metal products	1,448	1,472	1,463	1,468	1,468	1,470	1,468	1,475	1,477	1,482	1,485	1,489	1,496	1,497	1,494
Industrial machinery and equipment	2,112	2,155	2,136	2,142	2,146	2,152	2,155	2,165	2,168	2,176	2,184	2,188	2,194	2,198	2,198
Computer and office equipment	363	379	372	375	378	379	381	385	384	386	384	387	387	387	387
Electronic and other electrical equipment	1,651	1,656	1,645	1,643	1,644	1,651	1,658	1,661	1,663	1,666	1,673	1,678	1,685	1,685	1,687
Electronic components and accessories	610	629	614	618	622	628	632	637	639	644	647	651	655	654	653
Transportation equipment	1,781	1,830	1,810	1,804	1,809	1,824	1,826	1,855	1,840	1,849	1,868	1,868	1,874	1,879	1,880
Motor vehicles and equipment	963	972	969	957	960	967	965	985	973	977	995	988	992	993	993
Aircraft and parts	460	505	491	495	498	505	510	514	515	518	521	526	527	530	529
Instruments and related products	854	857	853	855	854	856	859	858	858	859	860	861	864	860	863
Miscellaneous manufacturing industries	387	386	386	388	387	386	389	387	386	385	381	385	387	386	386
Nondurable goods	7,691	7,622	7,641	7,639	7,634	7,627	7,604	7,598	7,601	7,605	7,614	7,626	7,629	7,621	7,623
Production workers	5,379	5,320	5,334	5,334	5,336	5,325	5,310	5,290	5,300	5,306	5,312	5,320	5,321	5,315	5,311
Food and kindred products	1,693	1,693	1,698	1,699	1,693	1,692	1,684	1,679	1,688	1,690	1,701	1,706	1,710	1,709	1,714
Tobacco products	41	41	42	41	41	41	41	40	40	41	42	41	40	41	41
Textile mill products	624	608	612	609	609	607	608	604	605	604	602	604	601	598	597
Apparel and other textile products	864	813	827	822	818	816	810	810	803	800	796	795	792	783	782
Paper and allied products	681	676	677	677	677	675	675	675	675	675	676	676	678	678	678
Printing and publishing	1,538	1,544	1,535	1,541	1,546	1,550	1,549	1,547	1,547	1,548	1,551	1,553	1,558	1,560	1,558
Chemicals and allied products	1,032	1,027	1,028	1,029	1,030	1,027	1,023	1,024	1,026	1,028	1,028	1,029	1,027	1,028	1,030
Petroleum and coal products	142	139	140	140	139	138	138	138	138	137	137	138	134	135	135
Rubber and miscellaneous plastics products	981	990	988	988	988	989	986	991	990	993	992	996	1,002	1,001	1,002
Leather and leather products	96	91	94	93	93	92	90	90	89	89	89	88	87	88	86
SERVICE-PRODUCING	95,092	97,520	96,674	97,004	97,132	97,342	97,727	97,727	98,021	98,269	98,624	98,871	99,126	99,345	99,395
Transportation and public utilities	6,261	6,425	6,405	6,421	6,431	6,434	6,443	6,289	6,473	6,497	6,495	6,478	6,516	6,542	6,564
Transportation	4,038	4,182	4,164	4,179	4,187	4,193	4,202	4,049	4,232	4,247	4,243	4,221	4,247	4,268	4,281
Railroad transportation	231	228	226	225	226	230	229	225	227	226	229	230	233	232	231
Local and interurban passenger transit	439	458	455	460	458	457	461	464	457	458	459	462	463	466	469
Trucking and warehousing	1,641	1,688	1,671	1,676	1,687	1,686	1,692	1,703	1,708	1,710	1,702	1,699	1,713	1,719	1,722
Water transportation	173	177	175	177	176	178	176	179	176	178	177	175	172	177	179
Transportation by air	1,122	1,183	1,191	1,192	1,192	1,192	1,193	1,025	1,211	1,221	1,222	1,201	1,210	1,215	1,220
Pipelines, except natural gas	15	14	14	14	14	14	14	14	14	14	14	14	14	14	14
Transportation services	417	436	432	435	434	436	437	439	439	440	440	440	442	445	446
Communications and public utilities	2,223	2,243	2,241	2,242	2,244	2,241	2,241	2,240	2,241	2,250	2,252	2,257	2,269	2,274	2,283
Communications	1,338	1,374	1,364	1,369	1,372	1,372	1,372	1,376	1,376	1,385	1,390	1,396	1,406	1,410	1,420
Electric, gas, and sanitary services	885	869	877	873	872	869	869	864	865	865	862	861	863	864	863
Wholesale trade	6,483	6,657	6,611	6,622	6,630	6,634	6,664	6,675	6,687	6,712	6,729	6,746	6,780	6,793	6,798
Retail trade	21,625	22,136	21,945	22,029	22,026	22,079	22,159	22,189	22,215	22,258	22,403	22,450	22,462	22,476	22,428
Building materials and garden supplies	892	927	922	931	932	928	930	929	926	928	934	934	945	948	947
General merchandise stores	2,726	2,807	2,783	2,799	2,787	2,798	2,803	2,822	2,818	2,824	2,868	2,874	2,866	2,864	2,863
Department stores	2,388	2,462	2,452	2,446	2,452	2,450	2,458	2,470	2,469	2,474	2,522	2,520	2,531	2,510	2,511

See footnotes at end of table.

12. Continued—Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		1997										1998		
	1996	1997	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[P]	Mar.[P]
Food stores	3,435	3,497	3,478	3,480	3,482	3,487	3,502	3,505	3,507	3,520	3,521	3,522	3,533	3,539	3,538
Automotive dealers and service stations	2,270	2,323	2,315	2,319	2,316	2,315	2,318	2,325	2,331	2,336	2,338	2,338	2,339	2,339	2,342
New and used car dealers	1,032	1,056	1,055	1,055	1,054	1,056	1,055	1,057	1,057	1,060	1,062	1,061	1,061	1,061	1,062
Apparel and accessory stores	1,101	1,103	1,104	1,105	1,099	1,097	1,096	1,102	1,102	1,108	1,111	1,106	1,111	1,102	1,093
Furniture and home furnishings stores	985	1,041	1,025	1,026	1,032	1,034	1,042	1,044	1,049	1,055	1,062	1,070	1,073	1,076	1,078
Eating and drinking places	7,499	7,605	7,525	7,571	7,572	7,595	7,639	7,618	7,626	7,626	7,669	7,688	7,694	7,709	7,666
Miscellaneous retail establishments	2,717	2,836	2,793	2,798	2,806	2,825	2,829	2,844	2,856	2,863	2,900	2,918	2,901	2,899	2,901
Finance, insurance, and real estate	6,899	7,053	6,992	7,019	7,029	7,034	7,058	7,068	7,082	7,108	7,132	7,151	7,170	7,190	7,221
Finance	3,301	3,405	3,366	3,381	3,389	3,394	3,405	3,414	3,427	3,444	3,457	3,472	3,479	3,489	3,508
Depository institutions	2,024	2,046	2,037	2,041	2,043	2,044	2,048	2,048	2,048	2,052	2,058	2,064	2,061	2,064	2,070
Commercial banks	1,466	1,489	1,482	1,486	1,488	1,487	1,490	1,491	1,491	1,495	1,500	1,502	1,500	1,502	1,504
Savings institutions	263	253	254	253	253	254	253	252	251	250	250	253	252	252	252
Nondepository institutions	516	546	534	539	542	543	545	549	554	559	558	561	563	567	576
Security and commodity brokers	551	591	579	583	586	586	592	595	600	605	610	614	619	622	627
Holding and other investment offices	210	222	216	218	218	221	220	222	225	228	231	233	236	236	235
Insurance	2,217	2,230	2,217	2,221	2,222	2,226	2,230	2,232	2,232	2,239	2,247	2,257	2,257	2,263	2,268
Insurance carriers	1,510	1,510	1,500	1,502	1,503	1,506	1,509	1,510	1,511	1,516	1,521	1,529	1,527	1,530	1,537
Insurance agents, brokers, and service	707	720	717	719	719	720	721	722	721	723	726	728	730	733	731
Real estate	1,381	1,418	1,409	1,417	1,418	1,414	1,423	1,422	1,423	1,425	1,428	1,422	1,434	1,438	1,445
Services[1]	34,377	35,595	35,176	35,334	35,451	35,522	35,684	35,702	35,850	35,945	36,102	36,276	36,417	36,532	36,577
Agricultural services	625	669	648	664	669	668	673	675	680	684	687	682	687	683	680
Hotels and other lodging places	1,716	1,752	1,746	1,756	1,752	1,744	1,747	1,747	1,756	1,765	1,763	1,759	1,772	1,768	1,766
Personal services	1,184	1,190	1,196	1,193	1,189	1,182	1,182	1,185	1,187	1,188	1,197	1,185	1,187	1,192	1,198
Business services	7,254	7,666	7,577	7,594	7,618	7,645	7,682	7,657	7,732	7,759	7,832	7,918	7,970	8,026	8,041
Services to buildings	897	900	896	902	903	903	901	894	902	902	903	908	912	914	920
Personnel supply services	2,646	2,766	2,787	2,752	2,744	2,748	2,767	2,732	2,762	2,770	2,819	2,868	2,872	2,920	2,902
Help supply services	2,341	2,431	2,457	2,419	2,409	2,407	2,425	2,395	2,423	2,427	2,484	2,520	2,515	2,571	2,555
Computer and data processing services	1,208	1,342	1,291	1,306	1,322	1,337	1,347	1,360	1,375	1,387	1,401	1,421	1,435	1,451	1,468
Auto repair services and parking	1,084	1,137	1,126	1,132	1,136	1,131	1,137	1,139	1,145	1,148	1,153	1,157	1,163	1,159	1,157
Miscellaneous repair services	375	385	380	382	384	386	387	388	388	388	389	390	392	393	392
Motion pictures	522	542	529	528	532	537	539	550	549	550	551	561	559	566	558
Amusement and recreation services	1,466	1,548	1,494	1,503	1,542	1,561	1,576	1,563	1,568	1,563	1,583	1,600	1,606	1,617	1,616
Health services	9,469	9,687	9,612	9,644	9,673	9,673	9,697	9,712	9,731	9,750	9,771	9,795	9,801	9,816	9,823
Offices and clinics of medical doctors	1,679	1,743	1,721	1,728	1,740	1,740	1,745	1,745	1,754	1,763	1,773	1,780	1,786	1,789	1,791
Nursing and personal care facilities	1,732	1,761	1,753	1,760	1,764	1,761	1,762	1,765	1,764	1,766	1,767	1,769	1,786	1,789	1,768
Hospitals	3,814	3,876	3,852	3,857	3,864	3,869	3,877	3,884	3,892	3,900	3,910	3,917	3,927	3,931	3,936
Home health care services	665	682	678	684	682	682	685	685	684	682	683	681	673	670	669
Legal services	930	956	946	951	952	953	957	957	962	963	968	975	975	980	982
Educational services	2,020	2,081	2,047	2,062	2,062	2,074	2,089	2,094	2,105	2,110	2,118	2,121	2,132	2,139	2,141
Social services	2,403	2,478	2,445	2,458	2,466	2,474	2,494	2,497	2,502	2,507	2,511	2,521	2,529	2,535	2,546
Child day care services	569	589	580	581	587	590	594	600	597	594	594	598	605	603	607
Residential care	672	700	690	694	695	698	702	703	707	709	711	716	717	720	725
Museums and botanical and zoological gardens	85	88	87	87	88	88	88	88	88	88	89	89	88	90	90
Membership organizations	2,185	2,200	2,193	2,199	2,201	2,202	2,209	2,206	2,202	2,204	2,199	2,209	2,214	2,218	2,220
Engineering and management services	2,846	3,001	2,934	2,965	2,971	2,988	3,010	3,027	3,038	3,061	3,074	3,096	3,125	3,134	3,150
Engineering and architectural services	839	878	866	869	869	877	878	881	886	891	893	901	907	909	913
Management and public relations	873	952	923	936	941	950	959	968	969	976	979	993	1,009	1,013	1,014
Government	19,447	19,654	19,545	19,579	19,565	19,639	19,719	19,804	19,714	19,749	19,763	19,770	19,781	19,812	19,807
Federal	2,757	2,700	2,709	2,708	2,703	2,694	2,689	2,690	2,680	2,687	2,694	2,689	2,674	2,676	2,672
Federal, except Postal Service	1,901	1,842	1,856	1,856	1,851	1,843	1,839	1,830	1,824	1,832	1,826	1,818	1,825	1,820	1,817
State	4,624	4,648	4,622	4,635	4,636	4,640	4,671	4,664	4,662	4,663	4,673	4,665	4,664	4,661	4,667
Education	1,924	1,951	1,929	1,938	1,943	1,950	1,972	1,961	1,962	1,962	1,967	1,964	1,960	1,958	1,962
Other State government	2,700	2,697	2,693	2,697	2,693	2,690	2,699	2,703	2,700	2,701	2,706	2,701	2,704	2,703	2,705
Local	12,066	12,307	12,214	12,236	12,226	12,305	12,359	12,450	12,372	12,399	12,396	12,416	12,443	12,475	12,468
Education	6,748	6,912	6,853	6,858	6,850	6,902	6,954	7,030	6,957	6,963	6,964	6,965	6,985	7,008	7,008
Other local government	5,318	5,395	5,361	5,378	5,376	5,403	5,405	5,420	5,415	5,436	5,432	5,451	5,458	5,467	5,460

[1] Includes other industries not shown separately.

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

13. Average weekly hours of production or nonsupervisory workers on private nonfarm payrolls, by industry, monthly data seasonally adjusted

Industry	Annual average		1997										1998		
	1996	1997	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[p]	Mar.[p]
PRIVATE SECTOR	34.4	34.6	34.8	34.5	34.5	34.6	34.4	34.6	34.5	34.5	34.8	34.6	34.8	34.9	34.7
GOODS-PRODUCING	41.1	41.3	41.4	41.4	41.4	41.1	41.2	41.1	41.2	41.3	41.2	41.4	41.6	41.4	40.9
MINING	45.3	45.4	45.9	45.3	46.0	45.4	45.4	45.5	45.1	45.2	45.6	45.0	45.5	44.1	43.4
MANUFACTURING	41.6	42.0	42.1	42.1	42.0	41.8	41.8	41.8	41.9	42.0	42.1	42.2	42.1	42.0	41.7
Overtime hours	4.4	4.8	4.9	4.9	4.8	4.6	4.7	4.7	4.7	4.8	4.9	4.9	4.9	4.8	4.7
Durable goods	42.4	42.8	42.9	43.0	42.8	42.6	42.6	42.7	42.6	42.8	42.9	43.0	42.8	42.7	42.4
Overtime hours	4.7	5.1	5.2	5.3	5.2	5.0	5.0	5.0	5.0	5.1	5.2	5.2	5.2	5.1	5.0
Lumber and wood products	40.8	41.0	41.0	41.2	41.0	41.0	41.1	40.8	40.9	41.1	41.2	41.0	41.3	41.2	41.1
Furniture and fixtures	39.4	40.2	40.3	40.1	40.4	39.9	40.0	40.0	40.2	40.0	40.5	40.7	41.2	41.3	40.5
Stone, clay, and glass products	43.3	43.2	43.1	43.0	43.4	42.9	43.1	43.0	43.1	43.1	42.9	43.9	43.9	43.8	43.3
Primary metal industries	44.2	44.9	44.8	45.1	44.8	44.7	44.4	45.0	44.9	45.1	45.3	45.3	45.4	44.7	44.4
Blast furnaces and basic steel products	44.5	44.9	44.8	45.2	44.7	44.5	44.3	45.2	45.1	45.3	45.3	45.5	46.2	45.3	45.3
Fabricated metal products	42.4	42.7	42.6	42.9	42.6	42.4	42.4	42.3	42.4	42.6	42.6	42.9	42.7	42.6	42.4
Industrial machinery and equipment	43.1	43.6	43.5	43.9	43.6	43.3	43.4	43.4	43.4	43.4	43.8	43.6	43.5	43.3	43.2
Electronic and other electrical equipment	41.5	42.0	42.1	42.3	42.0	42.0	42.0	41.7	41.7	41.8	42.0	42.0	41.9	41.8	41.2
Transportation equipment	44.0	44.5	45.0	44.8	44.5	44.2	43.7	44.3	43.9	44.4	44.0	44.7	43.8	43.7	43.5
Motor vehicles and equipment	44.9	45.0	45.7	45.3	45.2	44.8	44.0	44.7	44.1	45.0	44.3	45.0	43.8	43.7	43.7
Instruments and related products	41.7	42.0	42.0	41.9	41.9	41.8	41.7	42.3	42.0	41.9	42.2	41.8	41.7	42.0	41.6
Miscellaneous manufacturing	39.7	40.4	40.2	40.5	40.3	40.1	40.4	40.2	40.3	40.2	40.5	40.7	40.2	40.7	40.4
Nondurable goods	40.5	40.9	40.9	40.9	40.8	40.6	40.6	40.7	40.9	40.8	41.1	41.1	41.2	40.9	40.8
Overtime hours	4.0	4.4	4.4	4.4	4.3	4.1	4.3	4.2	4.3	4.4	4.5	4.5	4.4	4.3	4.4
Food and kindred products	41.0	41.3	41.3	41.1	41.4	40.9	41.1	41.0	41.2	41.2	41.6	41.7	41.9	41.4	41.3
Textile mill products	40.6	41.4	41.2	41.7	41.4	41.2	41.3	41.2	41.4	41.3	41.5	41.7	41.8	41.7	41.2
Apparel and other textile products	37.0	37.4	37.5	37.5	37.1	37.4	36.9	37.1	37.3	37.2	37.1	37.5	37.6	37.4	37.1
Paper and allied products	43.3	43.7	43.8	43.9	43.8	43.4	43.5	43.4	43.7	43.7	44.1	43.8	43.6	43.3	43.4
Printing and publishing	38.2	38.5	38.6	38.5	38.3	38.3	38.4	38.3	38.7	38.7	38.8	38.6	38.5	38.5	38.4
Chemicals and allied products	43.2	43.2	43.3	43.1	43.3	43.1	43.0	43.3	43.4	43.2	43.4	43.1	43.5	43.5	43.4
Rubber and miscellaneous plastics products	41.5	41.8	41.8	42.0	41.6	41.5	41.7	41.7	41.6	41.8	42.2	42.1	42.0	41.8	41.5
Leather and leather products	38.1	38.4	38.7	38.5	38.2	38.1	38.4	38.0	38.4	38.6	38.0	38.3	38.3	38.8	37.6
SERVICE-PRODUCING	32.7	32.8	33.0	32.7	32.7	32.9	32.7	32.9	32.8	32.8	33.1	32.8	32.9	33.2	33.0
TRANSPORTATION AND PUBLIC UTILITIES	39.6	39.7	39.8	39.3	39.5	39.6	39.0	40.1	39.9	39.8	40.2	39.7	39.8	40.0	39.5
WHOLESALE TRADE	38.3	38.4	38.6	38.4	38.4	38.5	38.3	38.4	38.3	38.3	38.7	38.2	38.4	38.6	38.6
RETAIL TRADE	28.8	28.9	29.1	28.9	28.9	28.9	28.8	29.1	28.8	28.9	28.9	28.9	29.0	29.2	29.0

[p] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

14. Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry, seasonally adjusted

Industry	Annual average		1997										1997		
	1996	1997	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[p]	Mar.[p]
PRIVATE SECTOR (in current dollars)	$ 11.81	$ 12.26	$12.14	$12.14	$12.19	$12.23	$12.24	$12.31	$12.35	$12.40	$12.48	$12.48	$12.52	$12.59	$12.63
Goods-producing	13.47	13.91	13.79	13.80	13.85	13.86	13.86	13.94	13.97	14.07	14.11	14.17	14.15	14.21	14.25
Mining	15.61	16.14	15.94	15.96	16.05	16.12	16.10	16.07	16.20	16.27	16.43	16.41	16.42	16.77	16.93
Construction	15.46	16.00	15.80	15.86	15.91	15.95	15.96	16.03	16.08	16.12	16.22	16.36	16.22	16.30	16.42
Manufacturing	12.78	13.17	13.07	13.07	13.11	13.12	13.11	13.20	13.22	13.35	13.37	13.39	13.38	13.43	13.47
Excluding overtime	12.12	12.46	12.37	12.38	12.38	12.42	12.41	12.50	12.51	12.60	12.63	12.64	12.64	12.70	12.75
Service-producing	11.25	11.71	11.59	11.58	11.63	11.69	11.70	11.77	11.81	11.85	11.94	11.92	11.97	12.05	12.10
Transportation and public utilities	14.44	14.89	14.73	14.76	14.80	14.85	14.95	15.01	14.95	15.01	15.05	15.09	15.26	15.19	15.20
Wholesale trade	12.87	13.43	13.30	13.27	13.33	13.42	13.38	13.54	13.54	13.57	13.73	13.69	13.67	13.81	13.87
Retail trade	7.99	8.34	8.25	8.26	8.28	8.30	8.32	8.36	8.42	8.46	8.50	8.51	8.57	8.59	8.62
Finance, insurance, and real estate	12.79	13.31	13.12	13.00	13.18	13.29	13.30	13.49	13.47	13.54	13.64	13.59	13.63	13.83	13.88
Services	11.79	12.28	12.16	12.16	12.20	12.26	12.26	12.33	12.36	12.41	12.50	12.48	12.52	12.62	12.68
PRIVATE SECTOR (in constant (1982) dollars)	7.43	7.54	7.49	7.49	7.52	7.54	7.53	7.56	7.56	7.58	7.62	7.62	7.64	7.69	–

– Data not available.

[p] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

15. Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry

Industry	Annual average		1997										1998		
	1996	1997	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[P]	Mar.[P]
PRIVATE SECTOR	$ 11.81	$ 12.26	$12.17	$12.17	$12.17	$12.17	$12.15	$12.21	$12.39	$12.43	$12.51	$12.51	$12.59	$12.63	$12.66
MINING	15.61	16.14	15.98	16.05	15.98	16.11	16.03	15.94	16.23	16.19	16.38	16.49	16.61	16.89	16.96
CONSTRUCTION	15.46	16.00	15.67	15.75	15.83	15.88	16.00	16.09	16.27	16.30	16.25	16.34	16.22	16.19	16.28
MANUFACTURING	12.78	13.17	13.08	13.09	13.09	13.10	13.11	13.15	13.24	13.29	13.37	13.48	13.41	13.42	13.48
Durable goods	13.34	13.74	13.64	13.64	13.64	13.66	13.62	13.71	13.81	13.89	13.97	14.08	13.97	13.97	14.03
Lumber and wood products	10.44	10.76	10.60	10.64	10.71	10.77	10.82	10.80	10.86	10.86	10.90	10.93	10.89	10.91	10.96
Furniture and fixtures	10.15	10.55	10.43	10.42	10.47	10.51	10.53	10.59	10.70	10.67	10.70	10.79	10.75	10.76	10.82
Stone, clay, and glass products	12.82	13.18	13.03	13.06	13.12	13.13	13.20	13.21	13.27	13.32	13.36	13.40	13.39	13.46	13.48
Primary metal industries	14.97	15.22	15.16	15.15	15.09	15.16	15.28	15.17	15.27	15.34	15.39	15.43	15.47	15.45	15.52
Blast furnaces and basic steel products	17.79	17.99	17.86	17.88	17.84	17.99	18.09	17.97	18.26	18.22	18.25	18.12	18.30	18.31	18.33
Fabricated metal products	12.52	12.83	12.78	12.80	12.78	12.77	12.69	12.79	12.85	12.90	12.97	13.08	13.02	13.01	13.03
Industrial machinery and equipment	13.59	14.06	13.93	13.94	13.92	13.95	14.01	14.02	14.18	14.22	14.29	14.40	14.33	14.35	14.35
Electronic and other electrical equipment	12.18	12.70	12.49	12.55	12.56	12.59	12.69	12.75	12.85	12.91	13.00	13.13	13.00	12.97	13.03
Transportation equipment	17.20	17.60	17.51	17.48	17.47	17.45	17.23	17.47	17.60	17.92	17.98	18.13	17.79	17.82	17.94
Motor vehicles and equipment	17.75	18.09	18.01	18.01	17.97	17.92	17.54	17.86	18.05	18.50	18.57	18.69	18.28	18.36	18.51
Instruments and related products	13.14	13.55	13.47	13.47	13.52	13.55	13.54	13.52	13.66	13.63	13.70	13.73	13.68	13.71	13.77
Miscellaneous manufacturing	10.38	10.60	10.56	10.53	10.52	10.50	10.52	10.57	10.65	10.65	10.72	10.81	10.81	10.82	10.80
Nondurable goods	11.97	12.34	12.25	12.27	12.27	12.27	12.37	12.33	12.40	12.40	12.48	12.58	12.57	12.57	12.64
Food and kindred products	11.20	11.49	11.40	11.45	11.48	11.45	11.52	11.51	11.51	11.45	11.60	11.72	11.67	11.65	11.73
Tobacco products	19.34	19.20	19.40	20.32	20.76	21.10	20.95	19.78	18.19	17.95	17.78	18.59	18.32	18.12	18.41
Textile mill products	9.69	10.02	9.92	9.94	9.94	9.97	10.01	10.01	10.09	10.10	10.15	10.24	10.25	10.25	10.29
Apparel and other textile products	7.96	8.25	8.24	8.21	8.23	8.25	8.20	8.23	8.33	8.32	8.33	8.42	8.41	8.39	8.40
Paper and allied products	14.67	15.06	14.93	15.00	14.98	14.99	15.18	15.13	15.19	15.19	15.24	15.29	15.20	15.24	15.34
Printing and publishing	12.65	13.06	13.01	12.99	12.93	12.90	13.01	13.07	13.22	13.20	13.25	13.30	13.27	13.32	13.38
Chemicals and allied products	16.17	16.58	16.42	16.42	16.47	16.54	16.59	16.57	16.63	16.65	16.85	16.91	16.89	16.93	17.04
Petroleum and coal products	19.32	20.20	20.51	19.97	19.98	19.94	20.02	19.99	20.25	20.29	20.40	20.56	20.65	20.93	20.98
Rubber and miscellaneous plastics products	11.24	11.57	11.50	11.53	11.50	11.53	11.57	11.57	11.65	11.64	11.65	11.77	11.74	11.74	11.78
Leather and leather products	8.56	8.95	8.86	8.87	8.89	8.91	8.75	8.87	9.07	9.13	9.10	9.18	9.29	9.23	9.30
TRANSPORTATION AND PUBLIC UTILITIES	14.44	14.89	14.70	14.77	14.72	14.78	14.95	15.00	15.01	15.04	15.14	15.12	15.22	15.19	15.17
WHOLESALE TRADE	12.87	13.43	13.28	13.33	13.32	13.36	13.37	13.47	13.52	13.56	13.74	13.71	13.76	13.85	13.85
RETAIL TRADE	7.99	8.34	8.27	8.28	8.27	8.27	8.27	8.29	8.45	8.47	8.51	8.51	8.63	8.62	8.65
FINANCE, INSURANCE, AND REAL ESTATE	12.79	13.31	13.20	13.09	13.18	13.23	13.18	13.35	13.45	13.53	13.69	13.61	13.67	13.91	13.95
SERVICES	11.79	12.28	12.24	12.20	12.17	12.15	12.07	12.12	12.36	12.42	12.58	12.61	12.67	12.75	12.77

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry

Industry	Annual average		1997										1998		
	1996	1997	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[p]	Mar.[p]
PRIVATE SECTOR															
Current dollars	$406.26	$424.20	$421.08	$418.65	$419.87	$424.73	$421.61	$427.35	$429.93	$430.08	$435.35	$434.10	$430.58	$437.00	$436.77
Seasonally adjusted	–	–	422.47	418.83	420.56	423.16	421.06	425.93	426.08	427.80	434.30	431.81	435.70	439.39	438.26
Constant (1982) dollars	255.51	260.89	259.93	258.11	258.86	261.53	259.45	262.50	263.12	262.89	266.11	265.83	263.35	267.11	–
MINING	707.13	732.76	730.29	723.86	731.88	737.84	724.56	726.86	740.09	735.03	748.57	747.00	747.45	743.16	734.37
CONSTRUCTION	602.94	622.40	601.73	609.53	628.45	627.26	641.60	638.77	650.80	647.11	614.25	627.46	606.63	613.60	617.01
MANUFACTURING															
Current dollars	531.65	553.14	549.36	547.16	548.47	550.20	540.13	552.30	561.38	560.84	569.56	579.64	561.88	559.61	562.12
Constant (1982) dollars	334.37	340.18	339.11	337.34	338.14	338.79	332.39	339.25	343.56	342.81	348.14	354.95	343.66	342.06	–
Durable goods	565.62	588.07	585.16	582.43	583.79	584.65	570.68	585.42	595.21	597.27	604.90	618.11	595.12	593.73	596.28
Lumber and wood products	425.95	441.16	431.42	438.37	442.32	446.96	441.46	446.04	450.69	450.69	451.26	450.32	437.78	441.86	447.17
Furniture and fixtures	399.91	424.11	416.16	411.59	416.71	419.35	415.94	428.90	439.77	434.27	440.84	454.26	436.45	433.63	434.96
Stone, clay, and glass products	555.11	569.38	553.78	560.27	573.34	572.47	571.56	578.60	586.53	584.75	575.82	585.58	565.06	573.40	575.60
Primary metal industries	661.67	683.38	679.17	677.21	674.52	679.17	670.79	678.10	691.73	691.83	700.25	711.32	702.34	690.62	690.64
Blast furnaces and basic steel products	791.66	807.75	798.34	802.81	797.45	802.35	801.39	805.06	825.35	819.90	830.38	833.52	843.63	827.61	828.52
Fabricated metal products	530.85	547.84	543.15	542.72	543.15	544.00	527.90	543.58	552.55	553.41	561.60	575.52	554.65	550.32	551.17
Industrial machinery and equipment	585.73	613.02	610.13	607.78	605.52	605.43	599.63	604.26	619.67	615.73	628.76	645.12	624.79	624.23	624.23
Electronic and other electrical equipment	505.47	533.40	527.08	524.59	523.75	528.78	522.83	531.68	540.99	540.93	553.80	565.90	543.40	539.55	538.14
Transportation equipment	756.80	783.20	787.95	781.36	780.91	778.27	730.55	773.92	781.44	799.23	800.11	828.54	779.20	775.17	783.98
Motor vehicles and equipment	769.98	814.05	824.86	817.65	817.64	811.78	740.19	798.34	806.84	834.35	831.94	865.35	800.66	798.66	814.44
Instruments and related products	547.94	569.10	568.43	561.70	563.78	567.75	557.85	569.19	575.09	571.10	583.62	589.02	571.82	575.82	575.59
Miscellaneous manufacturing	412.09	428.24	425.57	423.31	420.80	421.05	415.54	425.97	434.52	464.52	441.66	446.45	431.32	434.96	437.40
Nondurable goods	484.79	504.71	498.58	496.94	498.16	499.39	499.75	504.30	513.36	509.64	517.92	525.84	514.11	510.34	513.18
Food and kindred products	459.20	474.54	463.98	462.58	471.83	467.16	473.47	479.97	486.87	478.61	489.52	496.93	483.14	476.49	478.58
Tobacco products	773.60	746.88	758.54	780.29	803.41	827.12	739.54	747.68	716.69	712.62	702.31	745.46	692.50	677.69	681.17
Textile mill products	393.41	414.83	408.70	410.52	409.53	415.75	406.41	416.42	423.78	418.14	425.29	431.10	426.40	421.28	423.95
Apparel and other textile products	294.52	308.55	309.00	305.41	306.16	311.85	300.12	307.80	313.21	312.83	131.21	320.80	313.69	311.27	312.48
Paper and allied products	635.21	658.12	649.46	651.00	650.13	650.57	657.29	656.64	669.88	665.32	676.66	681.93	664.24	653.80	661.15
Printing and publishing	483.23	502.81	503.49	497.52	492.63	490.20	495.68	504.50	518.22	513.48	519.40	521.36	504.26	508.82	515.13
Chemicals and allied products	698.54	716.26	709.34	706.06	709.86	712.87	708.39	712.51	723.41	720.95	736.35	744.04	733.03	733.07	739.54
Petroleum and coal products	842.35	870.62	881.93	846.73	847.15	855.43	854.85	859.57	876.83	878.56	885.36	869.69	918.93	881.15	891.65
Rubber and miscellaneous plastics products	466.46	483.63	480.70	480.80	479.55	480.80	474.37	482.47	489.30	487.72	495.13	506.11	493.08	488.38	488.87
Leather and leather products	326.14	343.68	341.11	337.95	339.60	345.71	330.75	340.61	353.73	352.42	350.35	356.18	350.23	349.82	348.75
TRANSPORTATION AND PUBLIC UTILITIES	571.82	591.13	580.65	578.98	578.50	588.24	589.03	607.50	603.40	598.59	610.14	601.78	596.62	604.56	596.18
WHOLESALE TRADE	492.92	515.71	511.28	510.54	512.82	517.03	512.07	518.60	519.17	520.70	531.74	526.46	524.26	533.23	533.23
RETAIL TRADE	230.11	241.03	237.35	236.81	238.18	243.14	244.50	246.21	245.05	243.94	245.09	248.49	242.50	248.26	248.26
FINANCE, INSURANCE, AND REAL ESTATE	459.16	480.49	481.80	469.93	473.16	484.22	471.84	481.94	481.51	485.73	502.42	488.60	493.49	516.06	514.76
SERVICES	382.00	400.33	399.02	395.28	394.31	398.52	395.90	398.75	401.70	404.89	412.62	411.09	410.51	418.20	417.58

– Data not available.
[p] = preliminary.

17. Diffusion indexes of employment change, seasonally adjusted

[In percent]

Timespan and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov	Dec.
	Private nonfarm payrolls, 356 industries											
Over 1-month span:												
1995	62.4	60.1	54.5	55.6	48.0	53.9	54.1	59.8	57.0	54.9	57.2	57.9
1996	51.7	64.3	60.1	54.9	62.9	60.5	56.5	59.3	54.4	62.6	58.1	61.0
1997	59.3	59.1	59.0	61.1	57.4	50.7	58.8	58.7	56.5	64.2	61.7	61.4
1998	64.5	57.6	54.5	–	–	–	–	–	–	–	–	–
Over 3-month span:												
1995	65.4	62.5	58.7	53.2	54.6	52.4	57.9	59.6	59.7	59.0	57.0	56.3
1996	62.6	63.6	62.6	61.2	62.1	63.1	62.6	58.8	62.8	60.4	64.7	65.0
1997	64.6	62.2	64.2	65.6	59.7	58.7	59.1	65.0	65.3	67.3	68.4	69.9
1998	66.9	65.2	–	–	–	–	–	–	–	–	–	–
Over 6-month span:												
1995	66.9	61.4	58.1	56.6	58.1	58.1	56.7	59.8	60.3	59.1	61.5	63.3
1996	62.2	63.5	63.5	63.5	62.6	61.2	65.3	63.6	62.6	64.5	64.2	67.4
1997	67.6	66.6	64.5	64.6	64.3	66.7	67.0	68.3	70.2	72.9	73.2	70.6
Over 12-month span:												
1995	63.6	62.4	62.6	63.3	61.7	61.9	58.7	62.2	62.2	61.1	62.2	63.3
1996	63.5	64.7	62.4	62.9	64.7	64.2	65.0	63.1	63.8	66.7	65.7	65.0
1997	67.3	66.2	69.4	70.4	70.1	69.5	71.3	71.9	70.8	–	–	–
	Manufacturing payrolls, 139 industries											
Over 1-month span:												
1995	54.3	56.1	44.2	51.4	42.1	42.8	43.5	52.2	47.1	50.0	47.5	50.7
1996	45.7	54.3	47.8	39.2	52.2	52.2	44.2	52.9	44.2	50.7	49.6	52.2
1997	54.0	50.4	52.9	52.9	51.4	49.3	51.8	49.6	54.3	57.6	59.4	57.2
1998	60.8	49.3	50.7	–	–	–	–	–	–	–	–	–
Over 3-month span:												
1995	59.7	50.4	47.5	40.3	42.4	36.3	38.5	43.9	49.3	46.4	45.3	43.9
1996	47.5	47.8	42.1	38.5	43.2	45.0	48.9	43.2	50.4	46.4	52.5	52.5
1997	53.2	51.4	50.7	52.5	48.6	48.9	48.6	53.6	55.8	62.9	64.0	67.3
1998	60.4	57.6	–	–	–	–	–	–	–	–	–	–
Over 6-month span:												
1995	55.8	48.6	43.9	38.8	39.2	39.6	38.8	39.6	43.9	45.0	44.2	44.6
1996	41.4	41.7	41.0	38.1	39.6	40.6	47.5	46.8	45.3	50.4	48.2	53.2
1997	53.2	53.2	50.4	49.3	48.6	52.2	55.0	58.3	60.8	65.1	67.3	64.0
Over 12-month span:												
1995	46.0	44.2	46.0	47.8	41.0	41.7	38.5	38.8	36.3	37.4	38.1	39.9
1996	39.6	42.8	39.2	39.6	42.4	40.3	43.5	40.3	43.5	46.8	46.4	47.1
1997	51.4	47.8	52.2	55.0	57.6	55.8	57.2	58.3	59.0	–	–	–

– Data not available.

NOTE: Figures are the percent of industries with employment increasing plus one-half of the industries with unchanged employment, where 50 percent indicates an equal balance between industries with increasing and decreasing employment. Data for the 2 most recent months shown in each span are preliminary. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

18. Annual data: Employment status of the population

[Numbers in thousands]

Employment status	1989	1990	1991	1992	1993	1994	1995	1996	1997
Civilian noninstitutional population	186,393	189,164	190,925	192,805	194,838	196,814	198,584	200,591	203,133
Civilian labor force	123,869	125,840	126,346	128,105	129,200	131,056	132,304	133,943	136,297
Labor force participation rate	66.5	66.5	66.2	66.4	66.3	66.6	66.6	66.8	67.1
Employed	117,342	118,793	117,718	118,492	120,259	123,060	124,900	126,708	129,558
Employment-population ratio	63.0	62.8	61.7	61.5	61.7	62.5	62.9	63.2	63.8
Agriculture	3,199	3,223	3,269	3,247	3,115	3,409	3,440	3,443	3,399
Nonagricultural industries	114,142	115,570	114,499	115,245	117,144	119,651	121,460	123,264	126,159
Unemployed	6,528	7,047	8,628	9,613	8,940	7,996	7,404	7,236	6,739
Unemployment rate	5.3	5.6	6.8	7.5	6.9	6.1	5.6	5.4	4.9
Not in the labor force	62,523	63,324	64,578	64,700	65,638	65,758	66,280	66,647	66,837

19. Annual data: Employment levels by industry

[In thousands]

Industry	1989	1990	1991	1992	1993	1994	1995	1996	1997[p]
Total employment	107,895	109,419	108,256	108,604	110,730	114,172	117,191	119,523	122,259
Private sector	90,117	91,115	89,854	89,959	91,889	95,044	97,885	100,076	102,605
Goods-producing	25,254	24,905	23,745	23,231	23,352	23,908	24,265	24,431	24,739
Mining	692	709	689	635	610	601	581	574	574
Construction	5,171	5,120	4,650	4,492	4,668	4,986	5,160	5,400	5,629
Manufacturing	19,391	19,076	18,406	18,104	18,075	18,321	18,524	18,457	18,537
Service-producing	82,642	84,514	84,511	85,373	87,378	90,264	92,925	95,092	97,520
Transportation and public utilities	5,625	5,793	5,762	5,721	5,829	5,993	6,132	6,261	6,425
Wholesale trade	6,187	6,173	6,081	5,997	5,981	6,162	6,378	6,483	6,657
Retail trade	19,475	19,601	19,284	19,356	19,773	20,507	21,187	21,625	22,136
Finance, insurance, and real estate	6,668	6,709	6,646	6,602	6,757	6,896	6,806	6,899	7,053
Services	26,907	27,934	28,336	29,052	30,197	31,579	33,117	34,377	35,595
Government	17,779	18,304	18,402	18,645	18,841	19,128	19,305	19,447	19,654
Federal	2,988	3,085	2,966	2,969	2,915	2,870	2,822	2,757	2,700
State	4,182	4,305	4,355	4,408	4,488	4,576	4,635	4,624	4,648
Local	10,609	10,914	11,081	11,267	11,438	11,682	11,849	12,066	12,307

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

20. Annual data: Average hours and earnings of production or nonsupervisory workers on nonfarm payrolls, by industry

Industry	1989	1990	1991	1992	1993	1994	1995	1996	1997
Private sector:									
Average weekly hours	34.6	34.5	34.3	34.4	34.5	34.7	34.5	34.4	34.6
Average hourly earnings (in dollars)	9.66	10.01	10.32	10.57	10.83	11.12	11.43	11.81	12.26
Average weekly earnings (in dollars)	334.24	345.35	353.98	363.61	373.64	385.86	394.34	406.26	424.20
Mining:									
Average weekly hours	43.0	44.1	44.4	43.9	44.3	44.8	44.7	45.3	45.4
Average hourly earnings (in dollars)	13.26	13.68	14.19	14.54	14.60	14.88	15.30	15.61	16.14
Average weekly earnings (in dollars)	570.18	603.29	630.04	638.31	646.78	666.62	683.91	707.13	732.76
Construction:									
Average weekly hours	37.9	38.2	38.1	38.0	38.5	38.9	38.9	39.0	38.9
Average hourly earnings (in dollars)	13.54	13.77	14.00	14.15	14.38	14.73	15.09	15.46	16.00
Average weekly earnings (in dollars)	513.17	526.01	533.40	537.70	553.63	573.00	587.00	602.94	622.40
Manufacturing:									
Average weekly hours	41.0	40.8	40.7	41.0	41.4	42.0	41.6	41.6	42.0
Average hourly earnings (in dollars)	10.48	10.83	11.18	11.46	11.74	12.07	12.37	12.78	13.17
Average weekly earnings (in dollars)	429.68	441.86	455.03	469.86	486.04	506.94	514.59	531.65	553.14
Transportation and public utilities:									
Average weekly hours	38.9	38.9	38.7	38.9	39.6	39.9	39.4	39.6	39.7
Average hourly earnings (in dollars)	12.60	12.97	13.22	13.45	13.62	13.86	14.13	14.44	14.89
Average weekly earnings (in dollars)	490.14	504.53	511.61	523.21	539.35	553.01	556.72	571.82	591.13
Wholesale trade:									
Average weekly hours	38.0	38.1	38.1	38.2	38.2	38.4	38.3	38.3	38.4
Average hourly earnings (in dollars)	10.39	10.79	11.15	11.39	11.74	12.06	12.43	12.87	13.43
Average weekly earnings (in dollars)	394.82	411.10	424.82	435.10	448.47	463.10	476.07	492.92	515.71
Retail trade:									
Average weekly hours	28.9	28.8	28.6	28.8	28.8	28.9	28.8	28.8	28.9
Average hourly earnings (in dollars)	6.53	6.75	6.94	7.12	7.29	7.49	7.69	7.99	8.34
Average weekly earnings (in dollars)	188.72	194.40	198.48	205.06	209.95	216.46	221.47	230.11	241.03
Finance, insurance, and real estate:									
Average weekly hours	35.8	35.8	35.7	35.8	35.8	35.8	35.9	35.9	36.1
Average hourly earnings (in dollars)	9.53	9.97	10.39	10.82	11.35	11.83	12.32	12.79	13.31
Average weekly earnings (in dollars)	341.17	356.93	370.92	387.36	406.33	423.51	442.29	459.16	480.49
Services:									
Average weekly hours	32.6	32.5	32.4	32.5	32.5	32.5	32.4	32.4	32.6
Average hourly earnings (in dollars)	9.38	9.83	10.23	10.54	10.78	11.04	11.39	11.79	12.28
Average weekly earnings (in dollars)	305.79	319.48	331.45	342.55	350.35	358.80	369.04	382.00	400.33

21. Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	1995	1996				1997				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended Dec. 1997	12 months ended Dec. 1997
Civilian workers[2]	127.2	128.3	129.2	130.2	130.9	132.0	132.8	134.1	135.2	0.8	3.3
Workers, by occupational group:											
White-collar workers	128.0	129.1	130.0	131.3	131.9	133.1	133.9	135.2	136.5	1.0	3.5
Professional specialty and technical	129.4	130.6	131.4	132.6	133.1	133.7	134.6	135.8	136.7	.7	2.7
Executive, administrative, and managerial	127.4	128.5	129.1	131.1	131.5	133.2	134.0	135.3	137.3	1.5	4.4
Administrative support, including clerical	129.0	130.1	130.8	132.0	132.6	133.6	134.6	135.8	136.9	.8	3.2
Blue-collar workers	125.8	126.7	127.7	128.3	129.1	129.8	130.9	131.8	132.4	.5	2.6
Service occupations	127.4	128.0	128.7	129.7	131.0	132.0	132.7	134.6	135.6	.7	3.5
Workers, by industry division:											
Goods-producing	127.4	128.3	129.3	130.1	130.9	131.5	132.7	133.6	134.1	.4	2.4
Manufacturing	128.3	129.3	130.4	131.3	132.1	132.6	133.8	134.6	135.3	.5	2.4
Service-producing	127.1	128.2	129.1	130.2	130.9	132.1	132.9	134.2	135.5	1.0	3.5
Services	129.4	130.4	131.2	132.5	133.2	134.1	134.9	136.5	137.6	.8	3.3
Health services	132.0	132.5	133.4	134.1	134.4	135.2	135.7	136.7	137.9	.9	2.6
Hospitals	131.4	132.3	132.9	133.6	133.8	134.2	134.6	135.6	136.7	.8	2.2
Educational services	130.2	130.5	130.8	133.2	133.9	134.0	134.2	136.5	137.0	.4	2.3
Public administration[3]	128.3	129.2	129.6	130.7	131.8	133.0	133.0	134.1	135.1	.7	2.5
Nonmanufacturing	126.8	127.9	128.8	129.8	130.5	131.7	132.5	133.8	135.1	1.0	3.5
Private industry workers	126.7	127.9	129.0	129.8	130.6	131.7	132.8	133.9	135.1	.9	3.4
Excluding sales occupations	127.1	128.3	129.2	130.2	130.8	131.9	133.0	134.1	135.2	.8	3.4
Workers, by occupational group:											
White-collar workers	127.6	129.0	130.0	131.1	131.7	133.1	134.1	135.2	136.7	1.1	3.8
Excluding sales occupations	128.6	129.9	130.7	132.0	132.5	133.7	134.8	135.9	137.4	1.1	3.7
Professional specialty and technical occupations	129.9	131.6	132.6	133.3	133.7	134.6	135.9	136.7	137.8	.8	3.1
Executive, administrative, and managerial occupations	126.9	128.0	128.8	130.9	131.3	133.0	133.9	135.2	137.4	1.6	4.6
Sales occupations	123.2	124.8	126.9	126.7	128.1	130.1	130.7	132.2	133.5	1.0	4.2
Administrative support occupations, including clerical	129.0	130.1	130.8	132.0	132.5	133.7	134.7	135.9	137.0	.8	3.4
Blue-collar workers	125.6	126.6	127.6	128.1	129.0	129.6	130.8	131.7	132.3	.5	2.6
Precision production, craft, and repair occupations	125.7	126.5	127.7	128.2	129.1	129.6	130.9	131.7	131.9	.2	2.2
Machine operators, assemblers, and inspectors	126.2	127.1	128.1	128.7	129.5	130.0	131.2	132.2	133.0	.6	2.7
Transportation and material moving occupations	123.0	123.9	124.7	124.9	125.2	126.1	126.8	128.0	128.9	.7	3.0
Handlers, equipment cleaners, helpers, and laborers	126.8	128.5	129.3	130.0	131.3	132.8	133.4	134.2	135.8	1.2	3.4
Service occupations	125.2	125.8	126.5	127.4	128.9	129.8	130.9	133.1	134.1	.8	4.0
Production and nonsupervisory occupations[4]	126.3	127.5	128.6	129.2	130.0	131.1	132.1	133.2	134.2	.8	3.2
Workers, by industry division:											
Goods-producing	127.3	128.2	129.3	130.1	130.9	131.4	132.7	133.6	134.1	.4	2.4
Excluding sales occupations	127.0	128.0	129.0	129.8	130.5	131.1	132.3	133.1	133.6	.4	2.4
White-collar occupations	129.0	130.0	131.0	132.2	132.9	133.5	134.8	135.6	136.2	.4	2.5
Excluding sales occupations	128.2	129.4	130.2	131.5	132.1	132.6	133.8	134.5	135.0	.4	2.2
Blue-collar occupations	126.3	127.1	128.3	128.9	129.6	130.2	131.4	132.4	132.8	.3	2.5
Construction	123.4	124.3	125.3	125.9	126.4	127.2	128.7	129.7	129.7	.0	2.6
Manufacturing	128.3	129.3	130.4	131.3	132.1	132.6	133.8	134.6	135.3	.5	2.4
White-collar occupations	129.5	130.5	131.6	132.8	133.6	133.9	135.2	135.8	136.7	.7	2.3
Excluding sales occupations	128.3	129.5	130.5	131.8	132.5	132.8	133.8	134.5	135.3	.6	2.1
Blue-collar occupations	127.5	128.4	129.5	130.2	131.1	131.7	132.8	133.7	134.3	.4	2.4
Durables	129.0	129.7	131.2	131.9	132.6	133.0	134.1	135.0	135.7	.5	2.3
Nondurables	127.0	128.3	128.9	130.0	131.0	131.7	133.0	133.7	134.5	.6	2.7
Service-producing	126.2	127.6	128.6	129.5	130.2	131.6	132.5	133.8	135.3	1.1	3.9
Excluding sales occupations	127.2	128.4	129.2	130.3	130.9	132.2	133.3	134.5	136.1	1.2	4.0
White-collar occupations	127.1	128.5	129.6	130.6	131.1	132.7	133.7	134.9	136.6	1.3	4.2
Excluding sales occupations	128.7	130.0	130.9	132.2	132.6	134.0	135.1	136.3	138.1	1.3	4.1
Blue-collar occupations	124.0	125.2	126.0	126.4	127.3	128.2	129.2	130.0	130.9	.7	2.8
Service occupations	124.8	125.3	126.1	127.1	128.6	129.5	130.6	132.7	133.9	.9	4.1
Transportation and public utilities	126.6	127.9	128.4	129.3	130.4	131.3	131.7	132.9	134.2	1.0	2.9
Transportation	125.1	126.9	127.7	128.2	129.2	130.6	130.9	132.1	133.4	1.0	3.3
Public utilities	128.5	128.9	129.1	130.4	131.7	132.0	132.5	133.7	135.1	1.0	2.6
Communications	128.3	128.0	127.5	129.1	131.1	130.2	130.5	131.8	134.0	1.7	2.2
Electric, gas, and sanitary services	128.7	130.1	131.1	132.0	132.4	134.2	134.9	136.0	136.4	.3	3.0
Wholesale and retail trade	124.2	125.5	126.4	127.5	128.6	130.1	131.2	132.4	132.9	.4	3.3
Excluding sales occupations	125.0	125.9	126.4	128.0	129.0	130.4	131.9	133.0	134.0	.8	3.9
Wholesale trade	127.0	127.5	129.3	129.9	130.9	132.9	133.8	134.6	135.1	.4	3.2
Excluding sales occupations	127.1	127.4	128.7	130.0	130.9	132.6	133.7	134.5	135.4	.7	3.4
Retail trade	122.7	124.5	124.8	126.2	127.4	128.5	129.7	131.1	131.7	.5	3.4
Food stores	122.4	123.6	124.4	127.0	128.4	128.2	128.2	129.8	129.4	–.3	.8
General merchandise stores	121.7	122.4	123.6	124.6	126.3	126.4	127.7	128.6	130.0	1.1	2.9

See footnotes at end of table.

21. Continued—Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	1995	1996				1997				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 1997	
Finance, insurance, and real estate	123.1	124.5	126.3	126.7	126.0	128.6	129.4	130.5	134.5	3.1	6.7
Excluding sales occupations	125.7	127.5	128.5	129.7	129.2	131.5	132.4	133.5	137.6	3.1	6.5
Banking, savings and loan, and other credit agencies	124.4	126.9	128.2	130.3	128.0	130.6	131.6	133.1	140.6	5.6	9.8
Insurance	125.9	127.6	128.2	129.3	129.6	131.9	132.1	133.1	134.8	1.3	4.0
Services	129.4	130.7	131.7	132.7	133.4	134.6	135.7	137.0	138.5	1.1	3.8
Business services	126.3	128.9	129.2	130.2	131.8	133.3	134.2	136.3	138.6	1.7	5.2
Health services	132.2	132.6	133.5	134.2	134.5	135.5	135.9	137.0	138.1	.8	2.7
Hospitals	131.3	132.2	132.8	133.4	133.7	134.0	134.4	135.4	136.5	.8	2.1
Educational services	133.7	134.4	134.8	137.5	138.0	138.5	138.8	141.6	142.6	.7	3.3
Colleges and universities	135.2	135.9	136.2	138.6	139.1	139.5	139.9	142.5	143.7	.8	3.3
Nonmanufacturing	125.9	127.2	128.2	129.1	129.8	131.1	132.1	133.3	134.7	1.1	3.8
White-collar workers	127.0	128.5	129.5	130.5	131.1	132.7	133.6	134.9	136.5	1.2	4.1
Excluding sales occupations	128.6	130.0	130.8	132.1	132.5	134.0	135.1	136.2	137.9	1.2	4.1
Blue-collar occupations	123.7	124.6	125.6	125.9	126.7	127.5	128.6	129.4	130.1	.5	2.7
Service occupations	124.7	125.3	126.0	127.0	128.6	129.4	130.5	132.7	133.8	.8	4.0
State and local government workers	129.3	129.9	130.2	131.9	132.7	133.2	133.3	135.0	135.7	.5	2.3
Workers, by occupational group:											
White-collar workers	129.1	129.6	129.9	131.8	132.5	132.9	133.0	134.8	135.5	.5	2.3
Professional specialty and technical	128.8	129.1	129.5	131.6	132.3	132.5	132.5	134.6	135.1	.4	2.1
Executive, administrative, and managerial	129.9	130.7	131.0	132.0	132.9	134.1	134.4	135.6	136.4	.6	2.6
Administrative support, including clerical	129.1	130.0	130.4	131.8	133.0	133.3	133.5	135.3	136.1	.6	2.3
Blue-collar workers	128.0	129.0	129.5	130.3	131.2	132.1	132.3	133.3	134.2	.7	2.3
Workers, by industry division:											
Services	129.6	130.0	130.3	132.4	133.1	133.2	133.3	135.4	136.0	.4	2.2
Services excluding schools[5]	129.4	130.3	130.8	131.9	132.0	132.5	132.9	134.4	135.3	.7	2.5
Health services	131.6	132.5	133.1	134.0	134.1	134.5	134.9	136.0	137.2	.9	2.3
Hospitals	131.7	132.6	133.2	134.2	134.3	134.8	135.2	136.3	137.6	1.0	2.5
Educational services	129.4	129.7	130.0	132.3	133.0	133.1	133.2	135.4	135.9	.4	2.2
Schools	129.8	130.0	130.3	132.6	133.4	133.4	133.5	135.7	136.2	.4	2.1
Elementary and secondary	130.1	130.2	130.5	132.6	133.1	133.1	133.3	135.5	135.8	.2	2.0
Colleges and universities	128.7	129.4	129.9	132.5	134.0	134.3	134.1	136.3	137.2	.7	2.4
Public administration[3]	128.3	129.2	129.6	130.7	131.8	133.0	133.0	134.1	135.1	.7	2.5

[1] Cost (cents per hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

[2] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

[5] Includes, for example, library, social, and health services.

22. Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	1995	1996				1997				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 1997	
Civilian workers[1]	123.9	125.1	126.1	127.2	128.0	129.2	130.1	131.6	132.8	0.9	3.8
Workers, by occupational group:											
White-collar workers	125.1	126.3	127.3	128.6	129.3	130.6	131.5	133.0	134.3	1.0	3.9
Professional specialty and technical	126.9	128.0	128.8	130.2	130.7	131.4	132.3	134.0	135.0	.7	3.3
Executive, administrative, and managerial	124.7	126.2	127.0	129.0	129.4	131.0	132.0	133.5	135.6	1.6	4.8
Administrative support, including clerical	125.2	126.4	127.1	128.4	129.1	130.4	131.4	132.7	133.7	.8	3.6
Blue-collar workers	121.7	122.8	123.9	124.5	125.4	126.2	127.5	128.4	129.3	.7	3.1
Service occupations	123.4	124.2	124.9	126.2	127.6	128.6	129.3	131.5	132.6	.8	3.9
Workers, by industry division:											
Goods-producing	122.9	123.9	125.1	126.1	126.8	127.6	128.9	129.9	130.6	.5	3.0
Manufacturing	124.3	125.4	126.5	127.7	128.4	129.1	130.3	131.3	132.2	.7	3.0
Service-producing	124.3	125.6	126.5	127.7	128.5	129.8	130.6	132.2	133.6	1.1	4.0
Services	126.9	128.0	128.9	130.3	131.1	132.0	132.9	134.8	136.0	.9	3.7
Health services	128.4	129.3	130.0	130.8	131.4	132.4	133.1	134.3	135.4	.8	3.0
Hospitals	127.8	128.6	129.2	130.0	130.5	131.0	131.5	132.5	133.6	.8	2.4
Educational services	128.5	128.8	129.1	131.6	132.3	132.5	132.6	135.3	135.9	.4	2.7
Public administration[2]	124.1	124.9	125.3	126.6	127.7	128.9	129.0	130.3	131.4	.8	2.9
Nonmanufacturing	123.7	125.0	125.9	127.0	127.8	129.1	130.0	131.5	132.8	1.0	3.9
Private industry workers	123.1	124.4	125.6	126.5	127.3	128.6	129.7	131.0	132.3	1.0	3.9
Excluding sales occupations	123.4	124.7	125.7	126.8	127.5	128.6	129.9	131.2	132.4	.9	3.8
Workers, by occupational group:											
White-collar workers	124.3	125.8	127.0	128.0	128.7	130.2	131.3	132.7	134.2	1.1	4.3
Excluding sales occupations	125.2	126.7	127.6	129.0	129.4	130.8	132.0	133.4	134.8	1.0	4.2
Professional specialty and technical occupations	126.1	127.8	128.8	129.6	129.9	131.0	132.4	133.7	134.8	.8	3.8
Executive, administrative, and managerial occupations	124.4	125.9	126.8	128.9	129.3	131.0	132.1	133.6	135.8	1.6	5.0
Sales occupations	120.4	122.0	124.4	123.9	125.9	127.8	128.3	129.8	131.4	1.2	4.4
Administrative support occupations, including clerical	125.3	126.5	127.3	128.5	129.2	130.6	131.7	132.9	133.9	.8	3.6
Blue-collar workers	121.4	122.5	123.7	124.3	125.1	126.0	127.3	128.3	129.1	.6	3.2
Precision production, craft, and repair occupations	121.4	122.4	123.7	124.2	125.1	125.8	127.4	128.2	128.7	.4	2.9
Machine operators, assemblers, and inspectors	122.3	123.4	124.5	125.4	126.4	127.2	128.5	129.5	130.6	.8	3.3
Transportation and material moving occupations	118.6	120.0	120.6	121.0	121.1	122.3	123.0	124.1	125.1	.8	3.3
Handlers, equipment cleaners, helpers, and laborers	122.6	124.2	125.1	125.8	127.1	128.4	129.3	130.2	131.8	1.2	3.7
Service occupations	121.4	122.2	123.0	124.1	125.7	126.6	127.6	129.9	131.1	.9	4.3
Production and nonsupervisory occupations[3]	122.4	123.7	124.9	125.8	126.5	127.7	128.8	130.1	131.2	.8	3.7
Workers, by industry division:											
Goods-producing	122.9	123.9	125.1	126.1	126.8	127.5	128.9	129.9	130.6	.5	3.0
Excluding sales occupations	122.4	123.5	124.6	125.7	126.3	127.0	128.3	129.3	130.0	.5	2.9
White-collar occupations	125.3	126.2	127.3	128.6	129.1	130.0	131.4	132.3	132.9	.5	2.9
Excluding sales occupations	124.2	125.3	126.3	127.7	128.1	128.9	130.0	130.9	131.6	.5	2.7
Blue-collar occupations	121.4	122.4	123.7	124.5	125.3	126.0	127.3	128.4	129.2	.6	3.1
Construction	117.4	118.3	119.6	120.4	120.8	122.0	123.6	124.7	124.9	.2	3.4
Manufacturing	124.3	125.4	126.5	127.7	128.4	129.1	130.3	131.3	132.2	.7	3.0
White-collar occupations	126.1	127.1	128.2	129.6	130.1	130.6	131.9	132.8	133.6	.6	2.7
Excluding sales occupations	124.8	126.0	127.0	128.4	128.9	129.3	130.5	131.3	132.2	.7	2.6
Blue-collar occupations	123.1	124.2	125.4	126.3	127.3	128.0	129.2	130.2	131.2	.8	3.1
Durables	124.3	125.1	126.5	127.7	128.4	129.0	130.1	131.2	131.9	.5	2.7
Nondurables	124.4	125.8	126.5	127.6	128.5	129.3	130.6	131.4	132.6	.9	3.2
Service-producing	123.2	124.7	125.8	126.7	127.5	129.0	130.1	131.5	133.1	1.2	4.4
Excluding sales occupations	124.2	125.6	126.5	127.6	128.3	129.7	130.9	132.3	133.9	1.2	4.4
White-collar occupations	124.0	125.6	126.8	127.8	128.5	130.1	131.2	132.6	134.3	1.3	4.5
Excluding sales occupations	125.6	127.2	128.1	129.5	129.9	131.5	132.7	134.2	135.9	1.3	4.6
Blue-collar occupations	121.4	122.7	123.5	123.8	124.8	126.0	127.2	127.9	128.9	.8	3.3
Service occupations	121.3	122.0	122.8	124.0	125.6	126.5	127.5	129.8	131.0	.9	4.3
Transportation and public utilities	123.7	124.6	125.0	125.9	127.0	128.2	128.8	130.1	131.3	.9	3.4
Transportation	121.6	122.9	123.2	123.8	124.7	126.5	126.9	128.5	129.5	.8	3.8
Public utilities	126.1	126.5	127.1	128.4	129.8	130.1	130.9	132.0	133.5	1.1	2.9
Communications	126.2	126.1	126.5	128.2	130.3	129.8	130.6	131.8	134.0	1.7	2.8
Electric, gas, and sanitary services	125.9	127.0	127.7	128.5	129.0	130.4	131.2	132.2	132.9	.5	3.0
Wholesale and retail trade	122.3	123.9	124.8	125.8	127.0	128.5	129.7	130.9	131.6	.5	3.6
Excluding sales occupations	123.2	124.4	124.9	126.5	127.7	129.3	131.1	132.2	133.2	.8	4.3
Wholesale trade	125.5	126.1	128.0	128.5	129.6	131.4	132.2	133.0	133.6	.5	3.1
Excluding sales occupations	125.7	126.3	127.6	128.9	129.8	131.8	132.8	133.9	135.0	.8	4.0
Retail trade	120.6	122.8	123.1	124.4	125.8	127.1	128.5	129.9	130.6	.5	3.8
Food stores	119.1	120.5	121.2	123.1	124.7	124.8	124.7	126.7	128.4	1.3	3.0
General merchandise stores	120.1	121.0	121.7	122.6	124.7	125.0	126.2	126.7	127.0	.2	1.8

See footnotes at end of table.

22. Continued—Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	1995	1996				1997				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 1997	
Finance, insurance, and real estate	118.4	119.8	121.9	122.2	122.2	124.5	125.3	126.4	130.6	3.3	6.9
Excluding sales occupations	121.3	123.4	124.5	126.0	125.3	127.2	128.1	129.3	133.6	3.3	6.6
Banking, savings and loan, and other credit agencies	120.1	122.7	124.2	126.8	123.8	125.9	126.8	128.9	138.3	7.3	11.7
Insurance	122.2	123.6	124.1	125.4	126.0	127.9	128.0	128.7	130.2	1.2	3.3
Services	126.0	127.6	128.7	129.7	130.5	131.8	133.0	134.7	136.2	1.1	4.4
Business services	124.3	126.9	127.7	128.5	130.1	131.4	132.4	134.9	137.3	1.8	5.5
Health services	128.4	129.3	130.1	130.8	131.4	132.5	133.2	134.3	135.4	.8	3.0
Hospitals	127.7	128.5	129.1	129.7	130.3	130.7	131.2	132.2	133.2	.8	2.2
Educational services	129.4	130.1	130.4	133.3	133.8	134.5	134.8	137.8	138.4	.4	3.4
Colleges and universities	130.1	130.6	130.9	133.4	133.8	134.6	135.0	137.8	138.7	.7	3.7
Nonmanufacturing	122.5	123.9	125.1	125.9	126.8	128.2	129.3	130.7	132.1	1.1	4.2
White-collar workers	123.8	125.4	126.6	127.6	128.3	129.9	131.0	132.4	134.1	1.3	4.5
Excluding sales occupations	125.4	126.9	127.8	129.2	129.6	131.2	132.4	133.8	135.5	1.3	4.6
Blue-collar occupations	119.8	120.9	122.0	122.4	123.1	124.1	125.5	126.4	127.1	.6	3.2
Service occupations	121.2	122.0	122.7	123.9	125.5	126.4	127.4	129.7	130.9	.9	4.3
State and local government workers	127.3	127.8	128.1	130.1	130.9	131.4	131.5	133.6	134.4	.6	2.7
Workers, by occupational group:											
White-collar workers	127.4	127.9	128.2	130.3	131.1	131.4	131.5	133.7	134.5	.6	2.6
Professional specialty and technical	128.0	128.3	128.6	131.1	131.7	131.9	132.0	134.4	135.1	.5	2.6
Executive, administrative, and managerial	126.9	127.7	128.0	129.3	130.2	131.3	131.7	133.1	134.1	.8	3.0
Administrative support, including clerical	125.1	125.8	126.1	127.7	129.0	129.2	129.5	131.4	132.3	.7	2.6
Blue-collar workers	125.7	126.6	127.0	127.9	128.8	129.6	129.8	131.2	132.3	.8	2.7
Workers, by industry division:											
Services	128.2	128.6	128.9	131.2	131.9	132.1	132.2	134.7	135.3	.4	2.6
Services excluding schools[3]	127.4	128.2	128.7	130.1	130.5	131.2	131.6	133.3	134.4	.8	3.0
Health services	128.6	129.3	129.9	131.1	131.4	132.1	132.6	133.9	135.3	1.0	3.0
Hospitals	128.4	129.1	129.7	130.9	131.3	131.9	132.4	133.7	135.2	1.1	3.0
Educational services	128.3	128.5	128.8	131.3	132.0	132.1	132.2	134.8	135.3	.4	2.5
Schools	128.4	128.7	128.9	131.4	132.2	132.2	132.3	134.9	135.5	.4	2.5
Elementary and secondary	129.2	129.3	129.5	132.0	132.4	132.4	132.6	135.3	135.7	.3	2.5
Colleges and universities	125.9	126.8	127.1	129.8	131.2	131.5	131.4	133.6	134.6	.7	2.6
Public administration[4]	124.1	124.9	125.3	126.6	127.7	128.9	129.0	130.3	131.4	.8	2.9

[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

[4] Includes, for example, library, social, and health services.

23. Employment Cost Index, benefits, private industry workers by occupation and industry group

[June 1989 = 100]

Series	1995	1996				1997				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 1997	
Private industry workers	135.9	136.6	137.4	138.1	138.6	139.4	140.1	140.8	141.8	0.7	2.3
Workers, by occupational group:											
White-collar workers	136.7	137.7	138.4	139.5	139.7	140.8	141.5	142.0	143.4	1.0	2.6
Blue-collar workers	134.7	135.2	136.1	136.2	137.0	137.2	138.0	138.8	139.0	.1	1.5
Workers, by industry division:											
Goods-producing	137.1	137.7	138.6	138.8	139.7	139.9	140.9	141.5	141.5	.0	1.3
Service-producing	134.7	135.5	136.2	137.2	137.4	138.5	139.2	139.8	141.4	1.1	2.9
Manufacturing	136.7	137.5	138.5	138.8	139.8	139.9	141.0	141.4	141.7	.2	1.4
Nonmanufacturing	135.3	136.0	136.7	137.5	137.9	138.9	139.5	140.2	141.5	.9	2.6

24. Employment Cost Index, private nonfarm workers by bargaining status, region, and area size

[June 1989 = 100]

Series	1995	1996				1997				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 1997	
COMPENSATION											
Workers, by bargaining status[1]											
Union	127.7	128.5	129.7	130.1	130.8	131.0	131.8	133.2	133.5	0.2	2.1
Goods-producing	127.5	127.9	129.0	129.2	129.8	130.0	131.2	132.3	132.5	.2	2.1
Service-producing	127.9	129.0	130.3	131.0	131.7	131.9	132.4	134.0	134.5	.4	2.1
Manufacturing	128.1	128.8	129.8	129.8	130.6	130.8	131.7	133.0	133.3	.2	2.1
Nonmanufacturing	127.1	128.0	129.2	129.9	130.4	130.6	131.5	132.9	133.2	.2	2.1
Nonunion	126.5	127.7	128.7	129.7	130.4	131.8	132.8	133.9	135.3	1.0	3.8
Goods-producing	127.2	128.3	129.4	130.4	131.3	132.0	133.2	134.0	134.7	.5	2.6
Service-producing	126.0	127.3	128.3	129.2	129.9	131.5	132.5	133.7	135.3	1.2	4.2
Manufacturing	128.3	129.3	130.5	131.7	132.5	133.1	134.4	135.1	135.9	.6	2.6
Nonmanufacturing	125.7	127.0	128.0	128.9	129.6	131.1	132.2	133.4	134.9	1.1	4.1
Workers, by region[1]											
Northeast	127.8	128.9	129.7	130.6	131.1	132.2	133.1	134.0	135.0	.7	3.0
South	125.6	127.0	127.8	128.8	129.7	130.8	131.5	132.5	134.6	1.6	3.8
Midwest (formerly North Central)	128.3	129.5	130.7	131.3	132.1	133.3	134.7	136.2	136.9	.5	3.6
West	125.0	125.9	127.3	128.3	128.9	130.3	131.4	132.5	133.4	.7	3.5
Workers, by area size[1]											
Metropolitan areas	126.8	128.0	129.1	130.0	130.6	131.7	132.8	133.9	135.1	.9	3.4
Other areas	126.5	127.2	128.0	128.7	130.2	131.4	132.4	133.8	135.3	1.1	3.9
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	122.2	122.8	124.2	124.8	125.4	126.0	126.9	128.3	128.9	.5	2.8
Goods-producing	120.6	121.3	122.5	123.2	123.6	124.1	125.4	126.6	127.1	.4	2.8
Service-producing	124.2	124.8	126.2	126.8	127.6	128.2	128.8	130.4	131.2	.6	2.8
Manufacturing	122.0	122.9	123.9	124.5	125.2	125.6	126.5	127.8	128.6	.6	2.7
Nonmanufacturing	122.3	122.8	124.3	124.9	125.5	126.1	127.1	128.6	129.1	.4	2.9
Nonunion	123.3	124.8	125.9	126.9	127.7	129.1	130.3	131.6	133.0	1.1	4.2
Goods-producing	123.8	124.9	126.1	127.3	128.0	128.9	130.2	131.2	132.0	.6	3.1
Service-producing	123.0	124.6	125.7	126.6	127.5	129.1	130.2	131.6	133.2	1.2	4.5
Manufacturing	125.2	126.3	127.5	128.8	129.6	130.3	131.7	132.6	133.5	.7	3.0
Nonmanufacturing	122.6	124.2	125.2	126.1	127.0	128.5	129.7	131.1	132.6	1.1	4.4
Workers, by region[1]											
Northeast	123.6	124.9	126.0	127.0	127.7	128.8	129.8	130.7	131.6	.7	3.1
South	122.4	124.1	125.1	126.0	127.0	128.5	129.4	130.6	133.0	1.8	4.7
Midwest (formerly North Central)	123.6	125.1	126.2	126.9	127.7	129.0	130.4	132.2	133.0	.6	4.2
West	122.7	123.3	124.8	125.8	126.5	127.7	128.9	130.2	131.2	.8	3.7
Workers, by area size[1]											
Metropolitan areas	123.2	124.6	125.8	126.7	127.4	128.7	129.9	131.1	132.3	.9	3.8
Other areas	122.4	123.4	124.2	125.0	126.5	127.7	128.8	130.4	132.0	1.2	4.3

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. Percent of full-time employees participating in employer-provided benefit plans, and in selected features within plans, medium and large private establishments, selected years, 1980–93

Item	1980	1982	1984	1986	1988	1989	1991	1993
Scope of survey (in 000's)	21,352	21,043	21,013	21,303	31,059	32,428	31,163	28,728
Number of employees (in 000's):								
With medical care	20,711	20,412	20,383	20,238	27,953	29,834	25,865	23,519
With life insurance	20,498	20,201	20,172	20,451	28,574	30,482	29,293	26,175
With defined benefit plan	17,936	17,676	17,231	16,190	19,567	20,430	18,386	16,015
Time-off plans								
Participants with:								
Paid lunch time	10	9	9	10	11	10	8	9
Average minutes per day	–	25	26	27	29	26	30	29
Paid rest time	75	76	73	72	72	71	67	68
Average minutes per day	–	25	26	26	26	26	28	26
Paid funeral leave	–	–	–	88	85	84	80	83
Average days per occurrence	–	–	–	3.2	3.2	3.3	3.3	3.0
Paid holidays	99	99	99	99	96	97	92	91
Average days per year	10.1	10.0	9.8	10.0	9.4	9.2	10.2	9.4
Paid personal leave	20	24	23	25	24	22	21	21
Average days per year	–	3.8	3.6	3.7	3.3	3.1	3.3	3.1
Paid vacations	100	99	99	100	98	97	96	97
Paid sick leave	62	67	67	70	69	68	67	65
Unpaid maternity leave	–	–	–	–	33	37	37	60
Unpaid paternity leave	–	–	–	–	16	18	26	53
Insurance plans								
Participants in medical care plans	97	97	97	95	90	92	83	82
Percent of participants with coverage for:								
Home health care	–	–	46	66	76	75	81	86
Extended care facilities	58	62	62	70	79	80	80	82
Physical exam	–	–	8	18	28	28	30	42
Percent of participants with employee contribution required for:								
Self coverage	26	27	36	43	44	47	51	61
Average monthly contribution	–	–	$11.93	$12.80	$19.29	$25.31	$26.60	$31.55
Family coverage	46	51	58	63	64	66	69	76
Average monthly contribution	–	–	$35.93	$41.40	$60.07	$72.10	$96.97	$107.42
Participants in life insurance plans	96	96	96	96	92	94	94	91
Percent of participants with:								
Accidental death and dismemberment insurance	69	72	74	72	78	71	71	76
Survivor income benefits	–	–	–	10	8	7	6	5
Retiree protection available	–	64	64	59	49	42	44	41
Participants in long-term disability insurance plans	40	43	47	48	42	45	40	41
Participants in sickness and accident insurance plans	54	51	51	49	46	43	45	44
Retirement plans								
Participants in defined benefit pension plans	84	84	82	76	63	63	59	56
Percent of participants with:								
Normal retirement prior to age 65	55	58	63	64	59	62	55	52
Early retirement available	98	97	97	98	98	97	98	95
Ad hoc pension increase in last 5 years	–	–	47	35	26	22	7	6
Terminal earnings formula	53	52	54	57	55	64	56	61
Benefit coordinated with Social Security	45	45	56	62	62	63	54	48
Participants in defined contribution plans	–	–	–	60	45	48	48	49
Participants in plans with tax-deferred savings arrangements	–	–	–	33	36	41	44	43
Other benefits								
Employees eligible for:								
Flexible benefits plans	–	–	–	2	5	9	10	12
Reimbursement accounts	–	–	–	5	12	23	36	52

NOTE: Dash indicates data not available.

26. Percent of full-time employees participating in employer-provided benefit plans, and in selected features within plans, small private establishments and State and local governments, 1987, 1990, 1992, and 1994

Item	Small private establishments			State and local governments			
	1990	1992	1994	1987	1990	1992	1994
Scope of survey (in 000's)	32,466	34,360	35,910	10,321	12,972	12,466	12,907
Number of employees (in 000's):							
With medical care	22,402	24,396	23,536	9,599	12,064	11,219	11,192
With life insurance	20,778	21,990	21,955	8,773	11,415	11,095	11,194
With defined benefit plan	6,493	7,559	5,480	9,599	11,675	10,845	11,708
Time-off plans							
Participants with:							
Paid lunch time	8	9	–	17	11	10	–
Average minutes per day	37	37	–	34	36	34	–
Paid rest time	48	49	–	58	56	53	–
Average minutes per day	27	26	–	29	29	29	–
Paid funeral leave	47	50	50	56	63	65	62
Average days per occurrence	2.9	3.0	3.1	3.7	3.7	3.7	3.7
Paid holidays	84	82	82	81	74	75	73
Average days per year[1]	9.5	9.2	7.5	10.9	13.6	14.2	11.5
Paid personal leave	11	12	13	38	39	38	38
Average days per year	2.8	2.6	2.6	2.7	2.9	2.9	3.0
Paid vacations	88	88	88	72	67	67	66
Paid sick leave	47	53	50	97	95	95	94
Unpaid leave	17	18	–	57	51	59	–
Unpaid paternity leave	8	7	–	30	33	44	–
Unpaid family leave	–	–	47	–	–	–	93
Insurance plans							
Participants in medical care plans	69	71	66	93	93	90	87
Percent of participants with coverage for:							
Home health care	79	80	–	76	82	87	84
Extended care facilities	83	84	–	78	79	84	81
Physical exam	26	28	–	36	36	47	55
Percent of participants with employee contribution required for:							
Self coverage	42	47	52	35	38	43	47
Average monthly contribution	$25.13	$36.51	$40.97	$15.74	$25.53	$28.97	$30.20
Family coverage	67	73	76	71	65	72	71
Average monthly contribution	$109.34	$150.54	$159.63	$71.89	$117.59	$139.23	$149.70
Participants in life insurance plans	64	64	61	85	88	89	87
Percent of participants with:							
Accidental death and dismemberment insurance	78	76	79	67	67	74	64
Survivor income benefits	1	1	2	1	1	1	2
Retiree protection available	19	25	20	55	45	46	46
Participants in long-term disability insurance plans	19	23	20	31	27	28	30
Participants in sickness and accident insurance plans	6	26	26	14	21	22	21
Retirement plans							
Participants in defined benefit pension plans	20	22	15	93	90	87	91
Percent of participants with:							
Normal retirement prior to age 65	54	50	–	92	89	92	92
Early retirement available	95	95	–	90	88	89	87
Ad hoc pension increase in last 5 years	7	4	–	33	16	10	13
Terminal earnings formula	58	54	–	100	100	100	99
Benefit coordinated with Social Security	49	46	–	18	8	10	49
Participants in defined contribution plans	31	33	34	9	9	9	9
Participants in plans with tax-deferred savings arrangements	17	24	23	28	45	45	24
Other benefits							
Employees eligible for:							
Flexible benefits plans	1	2	2	5	5	5	5
Reimbursement accounts	8	14	19	5	31	50	54

[1] Methods used to calculate the average number of paid holidays were revised in 1994 to count partial days more precisely. Average holidays for 1994 are not comparable with those reported in 1990 and 1992.

NOTE: Dash indicates data not available.

27. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1996			1997									
	1995	1996	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]	Mar.[p]	Apr.[p]	May[p]	June[p]	July[p]	Aug.[p]	Sept.[p]	Oct.[p]
Number of stoppages:															
Beginning in period	31	37	5	2	1	1	0	1	6	6	0	2	2	6	3
In effect during period	34	38	8	7	5	6	4	4	7	12	3	4	3	6	5
Workers involved:															
Beginning in period (in thousands)	192	273	15.5	3.3	2.1	4.3	.0	2.7	55.8	16.9	.0	24.6	184.5	30.3	4.4
In effect during period (in thousands)	207	275	22.9	19.5	12.0	16.3	9.9	10.1	60.6	60.5	12.0	35.3	189.3	30.3	8.6
Days idle:															
Number (in thousands)	5,771	4,889	243.9	234.6	226.8	238.7	170.6	144.3	537.7	567.4	231.2	228.5	2,075.4	128.4	64.0
Percent of estimated working time[1]	.02	.02	.01	.01	.01	.01	.01	.01	.02	.02	.01	.01	.08	.00	.00

[1] Agricultural and government employees are included in the total employed and total working time; private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in " 'Total economy' measures of strike idleness," *Monthly Labor Review*, October 1968, pp. 54–56.

[p] = preliminary.

28. Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		1997										1998		
	1996	1997	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS															
All items	156.9	160.5	160.0	160.2	160.1	160.3	160.5	160.8	161.2	161.6	161.5	161.3	161.6	161.9	162.2
Food and beverages	153.7	157.7	157.1	157.1	157.1	157.1	157.5	158.1	158.4	158.7	158.9	159.1	160.3	159.8	160.1
Food	153.3	157.3	156.6	156.6	156.6	156.6	157.0	157.6	157.9	158.2	158.5	158.7	159.9	159.4	159.7
Food at home	154.3	158.1	157.7	157.5	157.5	157.3	157.7	158.5	158.6	159.0	159.1	159.2	161.0	160.0	160.2
Cereals and bakery products	174.0	177.6	176.7	176.9	176.9	178.2	178.3	178.6	178.1	178.4	178.0	178.4	179.0	179.7	179.6
Meats, poultry, fish, and eggs	144.8	148.5	147.8	147.7	147.7	147.9	148.2	149.1	149.1	148.9	149.3	148.4	148.3	147.5	147.2
Dairy and related products[1]	142.1	145.5	146.1	145.7	145.4	144.1	143.3	143.4	143.5	145.7	147.0	147.8	148.3	147.7	148.4
Fruits and vegetables	183.9	187.5	189.3	186.4	186.4	183.7	184.6	187.3	188.1	188.5	189.5	191.3	202.1	193.8	196.1
Nonalcoholic beverages and beverage materials	128.6	133.4	129.5	131.9	133.4	134.8	136.3	136.7	136.7	136.6	134.7	133.1	134.1	134.8	134.2
Other foods at home	142.9	147.3	145.5	146.9	147.1	147.8	148.6	148.7	148.9	149.0	147.7	147.7	148.7	149.1	149.5
Sugar and sweets	143.7	147.8	146.3	147.9	147.9	148.1	149.2	147.8	148.5	148.2	147.4	147.9	150.3	149.6	150.8
Fats and oils	140.5	141.7	142.4	142.4	142.0	141.6	141.4	141.4	142.0	141.7	140.4	140.3	140.5	141.5	142.2
Other foods	156.2	161.2	160.3	161.1	160.4	161.2	161.3	161.8	161.9	162.5	161.5	162.8	163.6	164.2	164.3
Other miscellaneous foods[1,2]	–	–	–	–	–	–	–	–	–	–	–	100.0	100.4	100.4	101.5
Food away from home[1]	152.7	157.0	156.0	156.2	156.3	156.6	157.1	157.4	157.8	158.2	158.6	159.0	159.2	159.6	159.9
Other food away from home[1,2]	–	–	–	–	–	–	–	–	–	–	–	100.0	100.1	100.4	100.3
Alcoholic beverages	158.5	162.8	162.1	162.3	162.8	162.7	162.9	163.2	163.5	163.7	163.7	164.0	164.6	165.0	165.1
Housing	152.8	156.8	155.9	155.8	155.9	156.9	157.5	157.6	157.7	157.7	157.7	157.7	158.3	158.8	159.2
Shelter	171.0	176.3	175.2	175.3	175.3	176.0	177.0	177.5	177.2	177.8	177.7	178.1	179.2	180.1	180.8
Rent of primary residence	162.0	166.7	165.1	165.5	165.9	166.4	166.8	167.3	167.8	168.2	168.7	169.1	169.5	169.9	170.3
Lodging away from home[2]	–	–	–	–	–	–	–	–	–	–	–	100.0	105.1	109.3	111.2
Owners' equivalent rent of primary residence[3]	176.8	181.9	180.1	180.5	180.9	181.4	182.1	182.6	183.2	183.6	184.2	184.7	185.1	185.5	185.9
Tenants' and household insurance[1,2]	–	–	–	–	–	–	–	–	–	–	–	100.0	100.3	100.2	100.3
Fuels and utilities	127.5	130.8	129.9	128.9	129.0	131.9	132.1	131.4	132.1	130.8	131.1	130.0	128.8	127.4	127.1
Fuels	115.2	117.9	117.2	115.3	115.3	119.8	119.6	118.6	119.7	117.4	117.7	115.8	114.5	112.8	112.5
Fuel oil and other fuels	99.2	99.8	105.5	102.1	100.4	98.0	94.7	93.5	93.7	95.3	96.6	97.2	96.4	95.2	94.4
Gas (piped) and electricity	122.1	125.1	123.4	121.7	121.9	127.5	127.8	126.7	128.1	125.1	125.3	123.0	121.6	119.7	119.4
Household furnishings and operations	124.7	125.4	125.4	125.5	125.8	125.7	125.6	125.2	125.4	125.4	125.2	125.1	125.6	126.1	126.3
Apparel	131.7	132.9	134.5	136.1	135.3	132.4	130.2	130.0	133.0	134.9	134.7	131.6	129.8	131.9	134.9
Men's and boys' apparel	127.7	130.1	129.2	131.4	132.0	129.0	128.0	128.9	131.4	133.1	133.0	131.2	129.8	130.8	133.6
Women's and girls' apparel	124.7	126.1	130.1	131.9	129.9	125.6	121.1	120.3	126.0	128.3	128.8	123.6	120.2	124.3	129.9
Infants' and toddlers' apparel[1]	129.7	129.0	129.7	133.7	133.8	132.9	131.3	127.3	126.7	126.2	126.0	125.8	124.8	123.1	124.4
Footwear	126.6	127.6	127.0	129.3	129.1	126.3	125.9	126.3	127.4	130.6	129.3	128.2	127.4	126.6	126.5
Transportation	143.0	144.3	144.9	144.8	144.4	144.0	143.7	143.8	144.3	144.5	143.9	143.2	142.7	142.1	141.2
Private transportation	140.0	141.0	141.5	141.3	141.0	140.7	140.1	140.8	141.0	140.9	140.6	140.0	139.3	138.4	137.4
New and used motor vehicles[2]	–	–	101.6	101.5	101.1	100.6	100.1	99.5	99.3	99.6	99.9	100.0	100.2	100.2	99.9
New vehicles	143.7	144.3	145.4	145.2	144.6	144.2	143.7	143.0	142.7	143.3	144.0	144.1	144.4	144.4	144.4
Used cars and trucks[1]	157.0	151.1	154.4	154.3	153.9	151.8	149.9	148.5	148.2	147.9	147.6	147.9	148.1	148.4	146.1
Motor fuel	106.3	106.2	106.4	106.0	105.7	105.9	103.9	107.6	109.3	106.7	104.6	101.9	97.8	94.1	90.9
Gasoline (all types)	105.9	105.8	105.8	105.4	105.2	105.4	103.5	107.4	109.2	106.5	104.1	101.3	97.2	93.5	90.3
Motor vehicle parts and equipment	102.2	101.9	102.2	101.8	101.7	101.7	102.3	101.8	101.7	101.4	101.6	101.4	101.3	101.4	101.2
Motor vehicle maintenance and repair	158.4	162.7	161.5	161.9	162.2	162.6	162.9	163.3	163.5	163.9	164.0	164.7	165.0	165.5	165.7
Public transportation	181.9	186.7	188.1	189.8	188.1	186.6	189.4	183.4	186.0	190.9	185.9	184.3	187.1	191.2	193.7
Medical care	228.2	234.6	233.4	233.8	234.2	234.4	234.8	235.2	235.4	235.8	236.4	237.1	238.1	239.3	239.8
Medical care commodities	210.4	215.3	214.7	215.2	215.6	216.0	216.0	215.5	215.3	215.6	215.8	216.8	217.6	218.4	218.5
Medical care services	232.4	239.1	237.7	238.1	238.5	238.7	239.2	239.8	240.0	240.5	241.2	241.8	242.9	244.2	244.8
Professional services	208.3	215.4	214.2	214.7	215.2	215.5	215.9	216.3	216.4	216.8	217.1	217.5	218.5	219.7	220.4
Hospital and related services	269.5	278.4	276.7	277.0	277.3	277.4	278.1	279.0	279.4	280.2	281.3	282.5	283.5	285.2	285.2
Recreation[2]	–	–	99.4	99.3	99.4	99.8	99.8	100.0	99.9	100.0	100.0	100.0	100.3	100.7	101.0
Video and audio[1,2]	–	–	99.1	98.4	98.9	99.6	99.9	100.0	99.9	99.9	100.3	100.0	100.6	101.2	101.4
Education and communication[2]	–	–	97.5	97.5	97.6	97.7	97.9	98.6	99.7	99.9	100.0	100.0	99.9	99.8	99.9
Education[2]	–	–	95.6	95.6	95.8	95.9	96.2	97.8	99.6	99.9	99.9	100.0	100.3	100.4	100.5
Educational books and supplies	226.9	238.4	235.4	235.8	235.9	237.2	237.7	240.0	241.5	242.4	242.4	242.8	245.1	246.9	247.5
Tuition, other school fees, and child care	267.1	280.4	275.3	275.4	276.1	277.0	281.9	287.5	288.2	288.3	288.5	289.2	289.2	289.2	289.5
Communication[1,2]	–	–	100.6	100.6	100.6	100.7	100.6	99.8	99.8	100.0	100.1	100.0	99.6	99.2	99.3
Information and information processing[1,2]	–	–	100.7	100.6	100.6	100.8	100.7	99.8	99.8	100.0	100.1	100.0	99.6	99.1	99.3
Telephone services[1,2]	–	–	–	–	–	–	–	–	–	–	–	100.0	99.9	100.0	100.4
Information and information processing other than telephone services[1,4]	57.2	50.1	52.4	51.4	50.8	49.9	49.1	48.2	48.5	48.9	47.6	47.4	46.2	44.3	43.4
Personal computers and peripheral equipment[1,2]	–	–	–	–	–	–	–	–	–	–	–	100.0	96.9	91.3	88.7
Other goods and services	215.4	224.8	221.4	222.7	223.1	223.1	223.5	225.7	228.1	229.4	229.9	230.1	231.3	233.1	232.4
Tobacco and smoking products	232.8	243.7	238.2	243.2	243.8	241.3	242.0	243.4	246.5	250.2	250.7	251.2	253.8	261.2	254.1
Personal care[1]	150.1	152.7	151.8	152.7	152.6	152.8	152.6	152.5	152.7	153.3	154.3	154.0	154.6	155.0	155.5
Personal care products[1]	144.3	144.2	143.6	144.5	144.1	144.2	143.7	143.5	143.7	144.5	146.1	145.3	146.1	146.7	147.3
Personal care services[1]	156.6	162.4	161.2	162.0	162.3	162.6	162.5	162.7	162.7	163.4	163.5	163.9	164.3	164.3	164.7
Miscellaneous personal services	215.6	226.1	223.8	224.1	225.0	226.5	226.9	228.6	228.4	228.9	229.5	230.0	230.9	232.1	232.8

28. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		1997										1998		
	1996	1997	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Commodity and service group:															
Commodities	139.9	141.8	142.0	142.3	142.1	141.5	141.0	141.4	142.1	142.4	142.3	141.7	141.6	141.5	141.5
Food and beverages	153.7	157.7	157.1	157.1	157.1	157.1	157.5	158.1	158.4	158.7	158.9	159.1	160.3	159.8	160.1
Commodities less food and beverages	131.5	132.2	132.9	133.2	132.9	132.0	131.0	131.3	132.2	132.5	132.2	131.2	130.5	130.5	130.4
Nondurables less food and beverages	133.0	134.6	135.0	135.8	135.4	134.2	132.9	133.8	135.5	135.8	135.3	133.5	132.0	132.1	132.1
Apparel	131.7	132.9	134.5	136.1	135.3	132.4	130.2	130.0	133.0	134.9	134.7	131.6	129.8	131.9	134.9
Nondurables less food, beverages, and apparel	138.6	140.6	140.2	140.6	140.4	140.1	139.3	140.8	141.9	141.3	140.6	139.5	138.1	137.2	135.6
Durables	129.4	128.7	129.9	129.6	129.4	129.0	128.3	127.7	127.6	127.8	127.9	128.0	128.2	128.2	127.9
Services	174.1	179.4	178.2	178.3	178.4	179.3	180.1	180.3	180.6	181.0	181.0	181.0	181.8	182.4	182.9
Rent of shelter[3]	178.0	183.4	182.3	182.4	182.4	183.1	184.1	184.7	184.4	185.0	185.0	185.3	186.5	187.5	188.1
Transporatation services	180.5	185.0	184.9	185.4	184.9	184.5	185.6	184.3	184.7	186.9	186.2	186.0	187.1	187.9	188.4
Other services	201.4	209.6	207.3	207.7	208.0	208.8	209.1	210.7	212.2	212.7	212.7	213.1	213.7	214.4	215.1
Special indexes:															
All items less food	157.5	161.1	160.6	160.8	160.7	161.0	161.1	161.3	161.8	162.2	162.1	161.8	161.9	162.3	162.6
All items less shelter	152.8	155.9	155.6	155.8	155.7	155.7	155.6	155.9	156.6	156.9	156.8	156.4	156.4	156.4	156.5
All items less medical care	152.8	156.3	155.9	156.0	155.9	156.1	156.3	156.6	157.1	157.4	157.3	157.0	157.3	157.5	157.8
Commodities less food	132.6	133.4	134.1	134.4	134.1	133.3	132.3	132.6	133.5	133.8	133.5	132.6	131.9	131.9	131.8
Nondurables less food	134.5	136.3	136.6	137.4	137.0	135.9	134.7	135.5	137.2	137.4	137.0	135.3	133.9	134.1	134.1
Nondurables less food and apparel	139.5	141.8	141.4	141.7	141.7	141.4	140.8	142.1	143.0	142.5	141.9	141.0	139.8	138.9	137.5
Nondurables	143.5	146.4	146.2	146.6	146.4	145.8	145.4	146.1	147.1	147.4	147.3	146.5	146.2	146.1	146.2
Services less rent of shelter[3]	182.5	188.1	186.7	186.8	186.9	188.1	188.8	188.7	189.5	189.8	189.8	189.5	189.9	190.1	190.6
Services less medical care services	168.7	173.9	172.7	172.8	172.8	173.8	174.6	174.8	175.1	175.5	175.4	175.4	176.1	176.6	177.2
Energy	110.1	111.5	111.2	110.0	109.9	112.3	111.4	112.5	113.9	111.5	110.7	108.4	105.9	103.2	101.6
All items less energy	163.1	167.1	166.5	166.8	166.8	166.7	167.0	167.3	167.6	168.3	168.3	168.3	169.0	169.6	170.1
All items less food and energy	165.6	169.5	169.0	169.4	169.3	169.2	169.5	169.6	170.0	170.8	170.8	170.7	171.2	172.1	172.6
Commodities less food and energy	141.3	142.3	143.0	143.5	143.3	142.2	141.5	141.2	142.0	142.7	142.8	142.1	142.0	142.7	143.1
Energy commodities	105.7	105.7	106.6	105.8	105.3	105.2	103.1	106.2	107.7	105.7	103.9	101.6	97.8	94.3	91.3
Services less energy	179.4	185.0	183.8	184.1	184.1	184.6	185.4	185.8	186.0	186.7	186.7	186.9	187.9	188.8	189.4
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS															
All items	154.1	157.6	157.0	157.2	157.2	157.4	157.5	157.8	158.3	158.5	158.5	158.2	158.4	158.5	158.7
Food and beverages	153.2	157.2	156.5	156.5	156.6	156.6	157.0	157.6	157.8	158.1	158.3	158.5	159.6	159.2	159.4
Food	152.8	156.8	156.1	156.1	156.1	156.1	156.6	157.1	157.4	157.7	157.9	158.1	159.3	158.8	159.1
Food at home	153.5	157.2	156.7	156.6	156.6	156.5	156.9	157.6	157.7	158.0	158.1	158.2	159.9	158.9	159.2
Cereals and bakery products	173.6	177.3	176.4	176.6	176.7	177.9	177.9	178.2	177.7	178.0	177.8	178.1	178.8	179.4	179.3
Meats, poultry, fish, and eggs	144.5	148.2	147.4	147.3	147.4	147.5	148.0	148.8	148.7	148.5	149.0	148.0	148.0	147.2	146.9
Dairy and related products[1]	141.9	145.2	145.8	145.4	145.1	143.8	143.0	143.0	143.2	145.5	146.8	147.5	147.9	147.4	148.1
Fruits and vegetables	183.1	186.6	188.2	185.2	185.4	183.1	184.0	186.9	187.5	187.7	188.4	190.0	200.9	192.4	194.8
Nonalcoholic beverages and beverage materials	128.1	132.3	128.9	131.1	132.4	133.6	134.9	135.2	135.2	135.2	133.3	131.7	132.9	133.6	133.1
Other foods at home	142.6	146.8	145.1	146.4	146.6	147.2	147.9	148.0	148.2	148.4	147.0	147.1	148.1	148.5	148.9
Sugar and sweets	143.6	147.7	146.2	147.9	147.9	148.1	149.2	147.8	148.4	148.0	147.3	147.7	150.2	149.5	151.0
Fats and oils	140.3	141.4	142.2	142.1	141.7	141.3	141.1	141.2	141.7	141.4	140.2	140.0	140.4	141.4	141.9
Other foods	156.0	161.1	160.1	161.0	160.3	160.9	161.2	161.6	161.8	162.3	161.3	162.7	163.6	164.1	164.3
Other miscellaneous foods[1,2]	–	–	–	–	–	–	–	–	–	–	–	100.0	100.5	100.5	101.8
Food away from home[1]	152.6	157.0	156.0	156.2	156.2	156.6	157.1	157.4	157.8	158.2	158.6	159.0	159.3	159.6	159.9
Other food away from home[1,2]	–	–	–	–	–	–	–	–	–	–	–	100.0	100.1	100.3	100.3
Alcoholic beverages	157.9	162.1	161.5	161.7	162.2	162.1	162.2	162.5	162.6	162.8	162.8	163.1	163.6	163.9	164.0
Housing	149.6	153.4	152.5	152.4	152.6	153.6	154.1	154.2	154.4	154.4	154.5	154.4	154.8	155.1	155.5
Shelter	166.2	171.2	169.9	170.1	170.3	170.9	171.7	172.3	172.2	172.7	172.8	173.1	173.9	174.6	175.2
Rent of primary residence	161.6	166.3	164.7	165.2	165.6	166.0	166.5	167.0	167.5	167.9	168.4	168.8	169.2	169.6	170.0
Lodging away from home[2]	–	–	–	–	–	–	–	–	–	–	–	100.0	104.8	108.6	110.8
Owners' equivalent rent of primary residence[3]	161.2	165.8	164.3	164.6	164.9	165.4	166.0	166.5	167.0	167.4	167.9	168.3	168.7	169.1	169.5
Tenants' and household insurance[1,2]	–	–	–	–	–	–	–	–	–	–	–	100.0	100.4	100.2	100.5
Fuels and utilities	127.2	130.5	129.6	128.6	128.7	131.7	131.9	131.2	131.9	130.6	130.9	129.7	128.6	127.1	126.9
Fuels	114.7	117.3	116.5	114.7	114.7	119.2	119.1	118.1	119.3	116.8	117.3	115.2	113.9	112.2	111.9
Fuel oil and other fuels	99.0	99.6	105.3	101.7	100.0	97.6	94.5	93.2	93.4	95.0	96.4	97.0	96.2	95.1	94.5
Gas (piped) and electricity	121.6	124.6	122.9	121.2	121.5	127.0	127.3	126.2	127.6	124.6	124.9	122.4	121.0	119.2	118.9
Household furnishings and operations	123.2	123.9	123.9	124.0	124.3	124.2	124.1	123.7	123.9	123.9	123.7	123.6	124.1	124.7	125.0
Apparel	130.9	132.1	133.8	135.5	134.7	131.8	129.8	129.4	132.1	133.9	133.6	130.3	128.7	130.4	133.0
Men's and boys' apparel	127.4	129.9	128.8	131.1	131.7	128.8	128.0	128.8	131.2	132.4	132.7	130.7	129.4	130.1	132.8
Women's and girls' apparel	123.6	124.9	129.2	130.7	129.0	124.8	120.6	119.6	124.6	126.8	127.0	121.5	118.5	122.3	127.3
Infants' and toddlers' apparel[1]	130.8	130.1	130.7	134.9	134.9	133.8	132.0	128.4	128.3	127.7	127.1	126.5	125.3	123.1	124.5
Footwear	127.6	128.5	127.9	130.3	130.1	127.2	126.8	127.3	128.3	131.8	130.4	129.2	128.4	127.4	127.1
Transportation	142.8	143.6	144.2	144.2	143.8	143.4	142.9	143.3	143.6	143.6	143.1	142.4	141.7	140.9	139.9
Private transportation	140.7	141.3	141.9	141.8	141.5	141.1	140.4	141.1	141.4	141.1	140.8	140.1	139.3	138.4	137.2
New and used motor vehicles[2]	–	–	101.9	101.8	101.5	100.9	100.2	99.6	99.4	99.7	99.9	100.0	100.1	100.2	99.7
New vehicles	144.7	145.5	146.6	146.4	145.9	145.4	144.9	144.3	144.0	144.7	145.1	145.3	145.6	145.5	145.6
Used cars and trucks[1]	158.2	152.6	155.7	155.7	155.3	153.3	151.4	149.9	149.7	149.4	149.2	149.5	149.7	149.9	147.6

28. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		1997										1998		
	1996	1997	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Motor fuel	106.3	106.2	106.3	105.9	105.7	105.9	104.0	107.7	109.2	106.6	104.4	101.7	97.6	94.1	91.0
Gasoline (all types)	105.9	105.8	105.7	105.4	105.2	105.5	103.6	107.6	109.2	106.3	104.0	101.2	97.1	93.6	90.5
Motor vehicle parts and equipment	101.3	101.0	101.3	100.8	100.7	100.8	101.5	101.0	100.8	100.6	100.7	100.8	100.7	100.9	100.7
Motor vehicle maintenance and repair	159.3	163.7	162.5	162.9	163.2	163.7	164.0	164.2	164.5	164.9	165.1	165.7	166.0	166.5	166.7
Public transportation	179.6	184.2	185.1	186.8	185.2	184.0	186.2	181.6	183.5	187.8	183.9	182.5	184.7	187.9	190.2
Medical care	227.6	234.0	232.8	233.2	233.6	233.8	234.2	234.6	234.7	235.2	235.8	236.5	237.4	238.7	239.1
Medical care commodities	207.8	212.6	212.1	212.3	212.9	213.4	213.3	212.5	212.5	212.9	213.1	214.1	214.7	215.4	215.5
Medical care services	232.1	238.8	237.4	237.9	238.2	238.4	238.9	239.5	239.7	240.3	240.8	241.6	242.5	244.0	244.5
Professional services	209.5	216.7	215.4	216.0	216.5	216.8	217.2	217.7	217.8	218.1	218.5	218.9	219.8	221.0	221.8
Hospital and related services	266.5	274.7	273.0	273.4	273.6	273.6	274.4	275.2	275.6	276.4	277.4	278.7	279.6	281.4	281.4
Recreation[2]	–	–	99.4	99.3	99.4	99.8	99.8	100.1	100.0	100.1	100.0	100.0	100.3	100.7	101.0
Video and audio[1,2]	–	–	99.0	98.3	98.9	99.5	100.0	100.0	99.9	99.9	100.3	100.0	100.5	101.2	101.4
Education and communication[2]	–	–	97.6	97.6	97.8	97.9	98.1	98.5	99.7	99.9	100.0	100.0	100.0	99.8	100.0
Education[2]	–	–	95.5	95.5	95.7	95.9	96.2	97.6	99.6	99.8	99.9	100.0	100.3	100.4	100.5
Educational books and supplies	228.2	240.4	237.1	237.4	237.5	239.6	240.1	241.9	243.9	244.7	244.7	245.2	247.5	249.4	250.0
Tuition, other school fees, and child care	261.0	274.6	269.6	269.7	270.3	270.6	271.4	275.7	281.5	282.1	282.3	282.7	283.5	283.5	283.9
Communication[1,2]	–	–	100.5	100.5	100.5	100.7	100.6	99.7	99.8	99.9	100.1	100.0	99.7	99.3	99.5
Information and information processing[1,2]	–	–	100.5	100.5	100.5	100.7	100.7	99.7	99.8	99.9	100.1	100.0	99.6	99.3	99.5
Telephone services[1,2]	–	–	–	–	–	–	–	–	–	–	–	100.0	99.9	100.0	100.4
Information and information processing other than telephone services[1,4]	57.7	51.1	53.1	52.4	51.8	50.9	50.1	49.3	49.5	50.1	49.3	48.9	47.7	45.8	44.8
Personal computers and peripheral equipment[1,2]	–	–	–	–	–	–	–	–	–	–	–	100.0	96.6	91.1	88.3
Other goods and services	212.2	221.6	218.0	219.8	220.2	219.9	220.3	222.1	224.6	226.1	226.7	226.9	228.2	230.6	229.3
Tobacco and smoking products	232.5	243.3	237.7	242.7	243.4	240.9	241.7	243.0	246.1	249.9	250.5	250.9	253.6	261.1	253.7
Personal care[1]	150.1	152.6	151.6	152.6	152.6	152.7	152.4	152.4	152.6	153.3	154.3	153.9	154.5	155.0	155.5
Personal care products[1]	145.0	145.1	144.3	145.4	145.0	145.0	144.6	144.4	144.7	145.4	147.1	146.1	147.0	147.6	148.2
Personal care services[1]	156.6	162.5	161.2	162.1	162.4	162.7	162.6	162.8	163.0	163.5	163.7	164.1	164.5	164.5	164.9
Miscellaneous personal services	214.7	225.2	223.2	223.7	224.6	225.4	225.6	227.2	227.3	227.7	228.3	228.9	229.8	231.1	231.7
Commodity and service group:															
Commodities	139.9	141.8	142.0	142.2	142.1	141.5	141.0	141.4	142.1	142.3	142.1	141.6	141.4	141.3	141.1
Food and beverages	153.2	157.2	156.5	156.5	156.6	156.6	157.0	157.6	157.8	158.1	158.3	158.5	159.6	159.2	159.4
Commodities less food and beverages	131.8	132.4	133.1	133.4	133.2	132.3	131.3	131.6	132.5	132.7	132.3	131.3	130.5	130.5	130.1
Nondurables less food and beverages	132.8	134.5	134.8	135.6	135.3	134.1	132.9	133.9	135.5	135.7	135.1	133.1	131.5	131.5	131.2
Apparel	130.9	132.1	133.8	135.5	134.7	131.8	129.8	129.4	132.1	133.9	133.6	130.3	128.7	130.4	133.0
Nondurables less food, beverages, and apparel	138.3	140.4	139.9	140.3	140.2	139.9	139.1	140.8	141.9	141.2	140.5	139.3	137.6	136.7	134.8
Durables	129.2	128.4	129.6	129.3	129.2	128.6	128.0	127.4	127.2	127.3	127.3	127.5	127.7	127.7	127.3
Services	174.1	176.5	175.2	175.3	175.5	176.4	177.1	177.4	177.7	178.0	178.1	178.2	178.7	179.1	179.6
Rent of shelter[3]	159.9	164.7	163.5	163.7	163.9	164.5	165.3	165.8	165.8	166.2	166.3	166.6	167.4	168.1	168.6
Transporatation services	178.3	182.6	182.3	182.8	182.4	182.0	182.9	182.1	182.3	184.2	184.0	183.9	184.9	185.3	185.8
Other services	198.1	206.4	204.1	204.6	205.0	205.7	205.9	207.4	209.0	209.4	209.5	209.9	210.5	211.2	211.9
Special indexes:															
All items less food	154.3	157.6	157.1	157.3	157.3	157.5	157.5	157.8	158.4	158.6	158.5	158.1	158.1	158.4	158.5
All items less shelter	151.0	154.0	153.7	153.8	153.8	153.8	153.6	153.9	154.6	154.8	154.7	154.2	154.2	154.1	154.2
All items less medical care	150.7	154.0	153.5	153.6	153.6	153.8	153.8	154.2	154.7	154.9	154.9	154.5	154.7	154.8	154.9
Commodities less food	132.8	133.6	134.2	134.6	134.4	133.5	132.5	132.9	133.7	133.9	133.5	132.5	131.8	131.8	131.5
Nondurables less food	134.3	136.2	136.4	137.1	136.9	135.8	134.7	135.6	137.1	137.3	136.7	135.0	133.5	133.5	133.2
Nondurables less food and apparel	139.3	141.6	141.1	141.4	141.4	141.1	140.4	141.9	142.9	142.4	141.7	140.7	139.2	138.3	136.6
Nondurables	143.3	146.2	146.0	146.4	146.2	145.7	145.3	146.0	147.0	147.2	147.0	146.2	145.9	145.6	145.6
Services less rent of shelter[3]	162.7	167.6	166.3	166.4	166.5	167.7	168.2	168.2	168.8	169.0	169.1	168.8	169.1	169.2	169.6
Services less medical care services	166.2	171.2	169.9	170.0	170.1	171.1	171.8	172.0	172.4	172.7	172.8	172.7	173.2	173.6	174.1
Energy	109.8	111.1	110.7	109.6	109.5	111.8	110.8	112.2	113.5	111.0	110.1	107.7	105.0	102.4	100.8
All items less energy	160.4	164.1	163.5	163.9	163.9	163.8	164.0	164.2	164.6	165.2	165.3	165.2	165.8	166.3	166.7
All items less food and energy	162.3	166.0	165.5	165.9	165.9	165.8	165.9	166.0	166.5	167.1	167.2	167.1	167.5	168.2	168.6
Commodities less food and energy	140.9	141.9	142.5	143.1	142.9	141.8	141.1	140.8	141.5	142.2	142.2	141.5	141.5	142.1	142.3
Energy commodities	105.9	105.9	106.5	105.8	105.5	105.5	103.4	106.7	108.1	105.8	104.0	101.6	97.7	94.3	91.4
Services less energy	176.8	182.2	181.0	181.3	181.4	181.9	182.6	183.0	183.3	183.9	184.0	184.3	185.1	185.8	186.4

[1] Not seasonally adjusted.

[2] Indexes on a December 1997 = 100 base.

[3] Indexes on a December 1982 = 100 base.

[4] Indexes on a December 1988 = 100 base.

– Data not available.

NOTE: Index applies to a month as a whole, not to any specific date.

29. Consumer Price Index: U.S. city average and available local area data: all items

[1982–84 = 100, unless otherwise indicated]

Area	Pricing schedule[1]	All Urban Consumers							Urban Wage Earners						
		1997				1998			1997				1998		
		Feb.	Mar.	Nov.	Dec.	Jan.	Feb.	Mar.	Feb.	Mar.	Nov.	Dec.	Jan.	Feb.	Mar.
U.S. city average	M	159.6	160.0	161.5	161.3	161.6	161.9	162.2	156.8	157.0	158.5	158.2	158.4	158.5	158.7
Region and area size[2]															
Northeast urban	M	166.9	167.3	168.5	168.4	168.8	169.1	169.3	164.2	164.5	165.7	165.5	165.7	165.9	166.0
Size A—More than 1,500,000	M	167.7	168.1	169.3	169.1	169.5	170.1	170.2	163.9	164.2	165.5	165.2	165.4	165.8	165.8
Size B/C—50,000 to 1,500,000[3]	M	100.2	100.5	101.3	101.3	101.6	101.4	101.7	100.1	100.4	101.1	101.1	101.3	101.1	101.3
Midwest urban[4]	M	155.9	155.9	157.7	157.3	157.6	158.0	158.4	152.4	152.4	154.0	153.7	153.9	154.2	154.4
Size A—More than 1,500,000	M	156.5	156.6	158.4	158.1	158.5	158.9	159.5	152.3	152.3	153.8	153.6	153.9	154.2	154.7
Size B/C—50,000 to 1,500,000[3]	M	100.2	100.2	101.3	101.0	101.2	101.6	101.6	100.1	100.0	101.2	101.0	101.1	101.4	101.3
Size D—Nonmetropolitan (less than 50,000)	M	152.1	152.1	153.7	153.0	152.9	152.7	152.9	150.3	150.1	151.6	151.0	150.9	150.8	150.7
South urban	M	156.1	156.5	157.8	157.3	157.6	157.8	158.2	154.5	154.8	156.2	155.6	155.8	155.7	156.0
Size A—More than 1,500,000	M	155.2	155.4	156.4	156.3	156.6	156.7	157.2	153.2	153.4	154.5	154.2	154.4	154.3	154.7
Size B/C—50,000 to 1,500,000[3]	M	100.6	100.9	101.9	101.3	101.5	101.6	101.8	100.5	100.7	101.7	101.1	101.2	101.1	101.3
Size D—Nonmetropolitan (less than 50,000)	M	155.5	156.0	157.1	157.0	157.5	157.9	158.4	155.8	156.1	157.5	157.5	157.6	158.0	158.2
West urban	M	160.1	160.8	162.8	162.8	163.0	163.2	163.3	156.8	157.4	159.2	159.2	159.4	159.4	159.4
Size A—More than 1,500,000	M	160.1	160.9	162.8	163.1	163.3	163.6	163.8	155.2	155.9	157.7	157.9	158.0	158.0	158.1
Size B/C—50,000 to 1,500,000[3]	M	100.8	101.2	102.4	102.0	102.3	102.3	102.3	100.9	101.3	102.3	101.9	102.2	102.2	102.1
Size classes:															
A[5]	M	144.1	144.4	145.8	145.7	146.0	146.4	146.6	143.0	143.2	144.6	144.4	144.6	144.8	145.0
B/C[3]	M	100.5	100.7	101.7	101.4	101.6	101.7	101.8	100.4	100.6	101.5	101.2	101.3	101.3	101.4
D	M	156.2	156.4	157.8	157.5	157.7	157.8	158.1	155.4	155.4	156.9	156.7	156.7	156.8	156.8
Selected local areas[6]															
Chicago–Gary–Kenosha, IL–IN–WI	M	161.1	161.0	162.9	162.8	162.8	163.1	164.1	155.9	155.6	157.2	157.3	157.3	157.4	158.3
Los Angeles–Riverside–Orange County, CA	M	159.2	159.8	160.7	161.2	161.0	161.1	161.4	153.6	154.2	154.9	155.3	155.1	155.0	155.1
New York, NY–Northern NJ–Long Island, NY–NJ–CT–PA	M	170.1	170.7	172.0	171.9	172.1	172.7	173.0	166.2	166.6	168.0	167.7	167.7	168.2	168.2
Boston–Brockton–Nashua, MA–NH–ME–CT	1	–	168.1	169.4	–	171.2	–	171.3	–	166.8	167.8	–	169.3	–	169.3
Cleveland–Akron, OH	1	–	155.4	157.1	–	158.2	–	158.6	–	147.5	149.1	–	150.0	–	150.1
Dallas–Ft Worth, TX	1	150.7	–	–	152.5	152.1	–	153.0	150.8	–	–	152.7	152.2	–	152.8
Washington–Baltimore, DC–MD–VA–WV[7]	1	–	100.8	100.5	–	101.0	–	101.6	–	100.8	100.4	–	100.8	–	101.3
Atlanta, GA	2	–	–	–	159.4	–	159.5	–	–	–	–	156.8	–	156.6	–
Detroit–Ann Arbor–Flint, MI	2	155.4	–	–	157.1	–	158.5	–	150.3	–	–	151.7	–	152.9	–
Houston–Galveston–Brazoria, TX	2	144.5	–	–	145.6	–	146.1	–	143.6	–	–	144.5	–	144.7	–
Miami–Ft. Lauderdale, FL	2	–	158.5	159.5	159.3	–	160.2	–	–	156.2	157.0	156.8	–	157.3	–
Philadelphia–Wilmington–Atlantic City, PA–NJ–DE–MD	2	165.8	166.1	166.4	166.4	–	167.0	–	164.9	165.3	165.9	165.7	–	166.1	–
San Francisco–Oakland–San Jose, CA	2	157.9	159.2	162.6	162.6	–	163.2	–	155.0	156.2	159.5	159.4	–	159.6	–
Seattle–Tacoma–Bremerton, WA	2	–	–	–	165.0	–	166.5	–	–	–	–	160.6	–	162.2	–

[1] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:
M—Every month.
1—January, March, May, July, September, and November.
2—February, April, June, August, October, and December.

[2] Regions defined as the four Census regions.

[3] Indexes on a December 1996 = 100 base.

[4] The "North Central" region has been renamed the "Midwest" region by the Census Bureau. It is composed of the same geographic entities.

[5] Indexes on a December 1986 = 100 base.

[6] In addition, the following metropolitan areas are published semiannually and appear in tables 34 and 39 of the January and July issues of the *CPI Detailed Report*: Anchorage, AK; Cincinnati–Hamilton, OH–KY–IN; Denver–Boulder–Greeley, CO; Honolulu, HI; Kansas City, MO–KS; Milwaukee–Racine, WI; Minneapolis–St. Paul, MN–WI; Pittsburgh, PA; Portland–Salem, OR–WA; St Louis, MO–IL; San Diego, CA; Tampa–St. Petersburg–Clearwater, FL.

[7] Indexes on a November 1996 = 100 base.

– Data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Each local index has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error. As a result, local area indexes show greater volatility than the national index, although their long-term trends are similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in their escalator clauses.

Index applies to a month as a whole, not to any specific date.

30. Annual data: Consumer Price Index, U.S. city average, all items and major groups

[1982–84 = 100]

Series	1989	1990	1991	1992	1993	1994	1995	1996	1997
Consumer Price Index for All Urban Consumers:									
All items:									
Index	124.0	130.7	136.2	140.3	144.5	148.2	152.4	156.9	160.5
Percent change	4.8	5.4	4.2	3.0	3.0	2.6	2.8	3.0	2.3
Food and beverages:									
Index	124.9	132.1	136.8	138.7	141.6	144.9	148.9	153.7	157.7
Percent change	5.7	5.8	3.6	1.4	2.1	2.3	2.8	3.2	2.6
Housing:									
Index	123.0	128.5	133.6	137.5	141.2	144.8	148.5	152.8	156.8
Percent change	3.8	4.5	4.0	2.9	2.7	2.5	2.6	2.9	2.6
Apparel:									
Index	118.6	124.1	128.7	131.9	133.7	133.4	132.0	131.7	132.9
Percent change	2.8	4.6	3.7	2.5	1.4	–.2	–1.0	–0.2	.9
Transportation:									
Index	114.1	120.5	123.8	126.5	130.4	134.3	139.1	143.0	144.3
Percent change	5.0	5.6	2.7	2.2	3.1	3.0	3.6	2.8	0.9
Medical care:									
Index	149.3	162.8	177.0	190.1	201.4	211.0	220.5	228.2	234.6
Percent change	7.7	9.0	8.7	7.4	5.9	4.8	4.5	3.5	2.8
Other goods and services:									
Index	147.7	159.0	171.6	183.3	192.9	198.5	206.9	215.4	224.8
Percent change	7.8	7.7	7.9	6.8	5.2	2.9	4.2	4.1	4.4
Consumer Price Index for Urban Wage Earners and Clerical Workers:									
All items:									
Index	122.6	129.0	134.3	138.2	142.1	145.6	149.8	154.1	157.6
Percent change	4.8	5.2	4.1	2.9	2.8	2.5	2.9	2.9	2.3

31. Producer Price Indexes, by stage of processing

[1982 = 100]

Grouping	Annual average		1997										1998		
	1996	1997[p]	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Finished goods	131.3	131.8	132.1	131.6	131.6	131.6	131.3	131.7	131.8	132.3	131.7	131.1	130.2	130.1	129.7
Finished consumer goods	129.5	130.2	130.4	129.8	130.0	130.0	129.7	130.3	130.5	130.7	130.1	129.4	128.2	128.1	127.6
Finished consumer foods	133.6	134.5	135.2	134.3	135.2	134.0	134.0	134.9	134.7	135.1	134.6	134.2	132.8	133.6	133.3
Finished consumer goods excluding foods	127.6	128.2	128.2	127.7	127.6	128.1	127.6	128.1	128.6	128.7	128.0	127.2	126.0	125.5	124.9
Nondurable goods less food	123.3	124.3	123.8	123.2	123.5	124.4	124.1	124.8	125.8	124.6	123.9	122.8	121.3	120.6	119.9
Durable goods	134.2	133.8	135.0	134.5	133.6	133.4	132.4	132.3	131.4	134.7	134.1	133.9	133.6	133.5	133.3
Capital equipment	138.3	138.3	138.8	138.6	138.1	138.1	137.8	137.7	137.2	138.5	138.3	138.0	138.0	137.9	137.9
Intermediate materials, supplies, and components	125.7	125.6	125.6	125.3	125.4	125.8	125.5	125.8	126.0	125.5	125.5	125.0	124.2	124.0	123.3
Materials and components for manufacturing	128.6	128.3	128.6	128.4	128.4	128.3	128.2	128.3	128.3	128.0	128.2	128.0	127.5	127.5	127.0
Materials for food manufacturing	125.3	123.2	124.1	123.8	123.9	122.7	122.3	122.9	123.1	122.4	124.2	123.0	119.7	122.1	121.1
Materials for nondurable manufacturing	130.5	129.7	129.4	129.0	129.1	129.0	129.3	129.7	129.8	129.9	130.0	130.3	130.1	129.5	128.7
Materials for durable manufacturing	131.3	132.8	133.4	133.4	133.4	133.7	133.2	133.2	133.0	132.3	132.1	131.4	130.5	130.7	130.0
Components for manufacturing	126.9	126.4	126.7	126.6	126.5	126.4	126.4	126.2	126.2	126.0	126.0	125.9	126.0	126.0	126.0
Materials and components for construction	143.6	146.5	146.2	146.8	147.2	147.0	147.2	147.1	146.8	146.4	146.6	146.6	146.4	146.7	146.6
Processed fuels and lubricants	90.0	89.3	88.7	87.0	87.2	89.8	88.9	90.0	91.0	89.1	88.3	86.2	83.3	82.0	79.8
Containers	141.1	135.9	136.0	135.1	134.6	134.2	134.1	133.4	135.4	136.4	138.1	139.6	140.7	140.8	142.1
Supplies	135.9	135.9	135.8	136.0	136.2	136.0	135.9	135.8	136.2	135.8	136.1	135.9	135.5	135.2	135.0
Crude materials for further processing	113.8	110.9	107.6	107.9	110.4	107.1	107.1	107.5	108.5	112.7	114.7	107.4	102.7	100.4	99.2
Foodstuffs and feedstuffs	121.5	112.2	114.1	116.7	117.4	111.3	112.0	111.6	110.6	110.1	110.4	108.8	105.4	105.1	106.6
Crude nonfood materials	104.5	106.0	99.4	98.1	101.8	100.5	99.9	100.9	103.2	110.3	113.4	102.5	97.1	93.5	90.5
Special groupings:															
Finished goods, excluding foods	130.5	130.9	131.1	130.7	130.5	130.9	130.4	130.7	130.9	131.3	130.8	130.2	129.3	129.0	128.6
Finished energy goods	83.2	83.4	83.0	81.8	82.2	83.6	83.1	84.2	85.3	83.2	81.9	80.2	77.4	75.8	74.4
Finished goods less energy	139.6	140.2	140.7	140.3	140.3	139.9	139.7	139.9	139.7	140.9	140.6	140.3	139.9	140.2	140.1
Finished consumer goods less energy	140.1	141.0	141.4	141.0	141.1	140.6	140.3	140.7	140.6	141.8	141.4	141.1	140.6	141.1	140.9
Finished goods less food and energy	142.0	142.5	142.8	142.7	142.3	142.2	141.9	141.8	141.6	143.0	142.8	142.7	142.7	142.8	142.7
Finished consumer goods less food and energy	144.3	145.1	145.3	145.2	144.9	144.8	144.4	144.4	144.4	146.0	145.8	145.6	145.6	145.8	145.8
Consumer nondurable goods less food and energy	151.4	153.2	152.7	153.0	153.0	153.1	153.2	153.3	154.2	154.3	154.4	154.1	154.4	154.9	155.1
Intermediate materials less foods and feeds	125.6	125.7	125.6	125.2	125.3	125.7	125.6	125.8	126.1	125.6	125.6	125.2	124.5	124.3	123.6
Intermediate foods and feeds	128.1	125.4	127.2	127.5	128.3	126.4	124.6	124.6	126.0	122.6	124.3	123.3	118.8	118.9	117.1
Intermediate energy goods	89.8	89.0	88.5	86.7	87.0	89.5	88.6	89.7	90.7	88.8	88.0	85.9	83.0	81.8	79.5
Intermediate goods less energy	133.6	133.7	133.8	133.8	133.9	133.7	133.7	133.7	133.8	133.5	133.8	133.7	133.3	133.3	133.0
Intermediate materials less foods and energy	134.0	134.2	134.2	134.2	134.2	134.2	134.2	134.2	134.3	134.2	134.4	134.3	134.3	134.2	134.0
Crude energy materials	85.0	86.8	77.1	76.4	80.8	79.2	79.1	79.7	83.2	92.8	97.1	83.4	77.3	72.3	69.2
Crude materials less energy	130.0	123.4	125.7	126.7	127.5	123.1	123.1	123.3	122.2	121.5	121.6	120.0	116.8	116.8	117.3
Crude nonfood materials less energy	155.8	156.5	159.6	156.4	157.8	157.4	155.6	157.5	156.0	155.0	154.3	152.7	150.1	151.0	148.7

32. Producer Price Indexes for the net output of major industry groups

[December 1984 = 100, unless otherwise indicated]

SIC	Industry	Annual average		1997										1998		
		1996	1997[p]	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
–	**Total mining industries**	84.4	85.7	78.8	77.6	80.8	79.9	79.5	80.2	82.9	90.2	93.2	82.8	77.9	74.5	72.0
10	Metal mining	92.1	85.8	90.9	87.7	89.7	89.4	85.7	86.4	84.0	83.2	78.9	74.1	73.1	75.8	74.6
12	Coal mining (12/85 = 100)	91.4	92.1	92.8	95.0	91.7	92.6	91.5	91.6	91.9	91.3	91.0	92.2	92.1	89.7	90.3
13	Oil and gas extraction (12/85 = 100)	84.8	87.1	77.3	75.5	80.2	78.9	78.8	79.7	83.5	93.4	98.0	84.1	77.6	73.2	69.7
14	Mining and quarrying of nonmetallic minerals, except fuels	127.1	128.7	127.7	128.1	128.3	128.9	129.2	129.2	129.3	129.6	129.7	129.7	130.3	131.0	131.3
–	**Total manufacturing industries**	127.1	127.5	127.8	127.7	127.6	127.2	126.9	127.4	127.3	127.6	127.5	127.0	126.3	126.2	125.7
20	Food and kindred products	127.1	127.9	128.1	128.3	128.9	128.3	128.0	128.6	127.9	127.5	127.5	127.1	125.7	126.1	125.5
21	Tobacco manufactures	199.1	210.6	203.3	208.4	209.2	209.6	209.4	209.4	219.4	219.4	219.3	219.6	219.3	223.8	223.8
22	Textile mill products	118.2	118.7	118.8	118.2	118.5	118.6	118.8	118.8	118.9	119.1	119.0	118.7	118.7	119.6	119.6
23	Apparel and other finished products made from fabrics and similar materials	122.3	123.2	123.2	122.9	123.3	123.4	123.4	123.5	123.7	123.4	124.2	123.5	124.1	124.4	124.5
24	Lumber and wood products, except furniture	153.5	158.9	159.3	159.9	160.7	159.8	160.1	159.6	158.9	157.3	158.2	158.4	157.5	158.6	157.9
25	Furniture and fixtures	136.2	138.2	137.7	138.0	138.2	138.2	138.5	138.3	138.6	138.6	138.9	138.8	139.2	139.6	139.7
26	Paper and allied products	138.6	133.5	132.5	131.5	131.5	131.7	132.0	132.8	134.1	134.6	135.9	137.2	137.7	137.3	137.8
27	Printing, publishing, and allied industries	165.6	169.0	168.0	168.5	168.2	168.4	168.7	168.9	169.2	170.7	171.1	171.2	172.5	173.1	173.0
28	Chemicals and allied products	145.8	147.1	146.9	147.0	147.0	147.0	147.1	147.2	147.1	147.3	147.3	147.1	147.6	147.4	146.9
29	Petroleum refining and related products	87.4	85.5	87.3	85.8	85.5	83.6	81.3	85.3	86.1	84.8	83.6	79.1	73.7	70.6	65.9
30	Rubber and miscellaneous plastics products	123.1	122.8	122.4	122.8	122.9	122.9	123.0	123.1	122.9	122.7	122.8	122.7	122.6	122.6	122.6
31	Leather and leather products	134.7	137.2	137.2	137.4	136.9	136.2	136.9	136.9	137.0	137.5	137.9	137.6	137.7	137.5	137.4
32	Stone, clay, glass, and concrete products	125.8	127.4	127.1	127.5	127.6	127.4	127.4	127.5	127.5	127.8	127.8	127.8	127.9	128.0	128.0
33	Primary metal industries	123.7	124.7	124.8	125.0	125.0	125.4	125.2	125.2	125.2	124.8	124.5	123.8	123.4	123.1	122.9
34	Fabricated metal products, except machinery and transportation transportation equipment	126.2	127.6	127.1	127.2	127.4	127.5	127.7	127.9	128.0	128.1	128.2	128.1	128.3	128.5	128.6
35	Machinery, except electrical	119.2	118.5	119.1	119.1	118.5	118.3	118.4	118.3	118.2	118.1	118.0	118.1	118.2	118.0	117.9
36	Electrical and electronic machinery, equipment, and supplies	113.2	111.6	112.2	112.0	111.8	111.8	111.7	111.1	111.1	110.8	110.8	110.8	110.7	110.6	110.6
37	Transportation	134.2	134.2	135.3	134.8	133.9	133.8	132.8	132.8	131.8	135.0	134.4	134.1	133.8	133.8	133.8
38	Measuring and controlling instruments; photographic, medical, and optical goods; watches and clocks	125.0	125.7	125.5	125.7	125.7	125.3	125.7	125.8	125.8	125.7	125.8	125.9	126.0	126.4	126.3
39	Miscellaneous manufacturing industries (12/85 = 100)	127.8	129.1	128.9	129.1	129.1	129.1	129.0	129.1	129.2	129.4	129.1	129.3	129.5	129.7	129.6
	Service industries:															
42	Motor freight transportation and warehousing (06/93 = 100)	106.3	108.9	108.6	108.8	108.8	109.0	109.1	109.3	109.4	109.3	109.0	109.1	110.4	110.8	110.6
43	U.S. Postal Service (06/89 = 100)	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3
44	Water transportation (12/92 = 100)	103.7	104.1	104.1	104.2	104.3	104.8	104.4	104.7	103.8	104.6	104.1	103.8	102.9	101.9	102.3
45	Transportation by air (12/92 = 100)	121.1	125.5	124.6	125.1	125.1	126.2	126.5	125.4	122.5	123.7	123.4	124.2	122.5	123.7	124.8
46	Pipelines, except natural gas (12/92 = 100)	104.6	98.8	98.8	98.8	98.9	98.9	98.7	98.7	98.7	98.7	98.7	98.7	99.3	99.3	99.3

33. Annual data: Producer Price Indexes, by stage of processing

[1982 = 100]

Index	1989	1990	1991	1992	1993	1994	1995	1996	1997[p]
Finished goods									
Total	113.6	119.2	121.7	123.2	124.7	125.5	127.9	131.3	131.8
Foods	118.7	124.4	124.1	123.3	125.7	126.8	129.0	133.6	134.5
Energy	65.7	75.0	78.1	77.8	78.0	77.0	78.1	83.2	83.4
Other	122.1	126.6	131.1	134.2	135.8	137.1	140.0	142.0	142.5
Intermediate materials, supplies, and components									
Total	112.0	114.5	114.4	114.7	116.2	118.5	124.9	125.7	125.6
Foods	112.7	117.9	115.3	113.9	115.6	118.5	119.5	125.3	123.2
Energy	76.1	85.5	85.1	84.3	84.6	83.0	84.1	89.8	89.0
Other	120.2	120.9	121.4	122.0	123.8	127.1	135.2	134.0	134.2
Crude materials for further processing									
Total	103.1	108.9	101.2	100.4	102.4	101.8	102.7	113.8	110.9
Foods	111.2	113.1	105.5	105.1	108.4	106.5	105.8	121.5	112.2
Energy	75.9	85.9	80.4	78.8	76.7	72.1	69.4	85.0	86.8
Other	95.8	107.3	97.5	94.2	94.1	97.0	105.8	105.7	103.5

4. U.S. export price indexes by Standard International Trade Classification

1995 = 100, unless otherwise indicated]

SITC Rev. 3	Industry	1997										1998		
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
0	**Food and live animals**	103.4	103.1	101.2	98.5	97.8	99.7	99.5	98.5	97.6	96.7	94.9	92.5	92.5
01	Meat and meat preparations	96.4	96.7	95.7	95.3	95.7	96.2	95.2	95.2	96.1	94.6	91.4	90.9	92.1
04	Cereals and cereal preparations	104.9	104.5	99.7	92.3	89.9	93.2	95.0	93.5	94.9	94.4	88.9	91.5	90.4
05	Vegetables, fruit, and nuts, prepared fresh or dry	101.2	100.1	100.7	101.6	104.3	103.3	97.6	98.2	93.4	92.0	99.8	88.6	91.6
2	**Crude materials, inedible, except fuels**	93.2	92.6	93.0	93.4	93.6	92.7	91.6	88.7	88.9	87.8	84.8	85.1	84.1
21	Hides, skins, and furskins, raw	115.6	113.8	110.0	100.8	96.0	98.3	100.1	101.6	103.6	102.6	80.9	83.3	90.1
22	Oilseeds and oleaginous fruits	133.1	134.0	136.1	134.6	128.6	120.5	120.2	108.3	118.2	116.5	110.8	113.1	108.4
24	Cork and wood	96.0	94.2	94.2	93.2	92.8	92.4	90.9	88.6	85.8	85.6	86.0	85.4	84.1
25	Pulp and waste paper	58.6	58.9	60.5	65.9	69.1	71.4	68.2	69.4	68.3	66.8	64.0	64.8	65.1
26	Textile fibers and their waste	85.2	83.5	83.3	83.4	84.2	84.4	83.9	83.4	81.2	80.0	78.2	78.0	77.6
27	Crude fertilizers and crude minerals	96.9	96.9	97.3	97.8	97.9	97.9	97.9	97.9	97.8	97.4	97.5	97.2	97.1
28	Metalliferous ores and metal scrap	89.7	89.4	89.6	91.7	95.7	96.3	94.4	90.0	85.9	83.9	82.1	81.4	79.2
3	**Mineral fuels, lubricants, and related products**	111.4	110.7	110.7	110.9	110.9	111.2	111.8	112.6	112.0	112.8	109.4	108.6	106.4
32	Coal, coke, and briquettes	102.2	102.5	102.4	102.0	101.6	101.6	101.9	102.2	101.8	101.3	101.0	101.3	101.3
33	Petroleum, petroleum products, and related materials	119.5	119.9	120.0	119.4	120.9	121.3	121.8	121.3	120.1	119.0	115.9	114.2	110.5
4	**Animal and vegetable oils, fats, and waxes**	96.5	93.4	93.6	94.7	93.3	93.3	94.9	97.9	106.8	106.5	104.5	101.3	100.7
5	**Chemicals and related products, n.e.s.**	96.8	96.6	96.7	96.5	96.4	95.5	95.5	95.4	95.2	94.9	94.9	94.5	93.6
54	Medicinal and pharmaceutical products	100.9	101.6	101.5	101.5	101.1	101.1	101.2	100.8	100.9	100.9	101.9	101.6	102.4
55	Essential oils; polishing and cleaning preparations	102.2	102.2	102.8	102.9	103.1	102.6	103.7	103.6	102.1	101.9	101.3	102.0	101.5
57	Plastics in primary forms (12/92 = 100)	97.8	97.8	97.6	97.1	95.9	94.0	93.7	93.9	93.6	93.1	92.9	92.5	91.8
58	Plastics in nonprimary forms (12/92 = 100)	98.7	98.5	99.3	99.1	99.0	99.0	98.9	98.7	98.5	98.7	100.1	100.0	99.7
59	Chemical materials and products, n.e.s.	103.5	104.0	104.2	103.9	103.9	104.0	103.6	103.4	103.0	101.9	101.9	101.6	99.9
6	**Manufactured goods classified chiefly by materials**	97.5	97.8	97.7	98.2	98.5	98.6	98.7	98.7	98.9	98.5	98.1	98.5	98.3
62	Rubber manufactures, n.e.s.	102.7	103.0	103.1	103.2	103.1	102.2	101.9	102.2	102.1	102.1	101.8	101.8	101.9
64	Paper, paperboard, and articles of paper, pulp, and paperboard	83.1	82.3	82.9	83.5	84.4	85.3	85.0	85.3	85.2	85.1	84.7	85.0	84.8
66	Nonmetallic mineral manufactures, n.e.s.	104.0	104.0	104.1	104.3	104.5	104.6	106.1	106.1	106.3	107.1	106.7	107.3	107.0
68	Nonferrous metals	91.7	92.0	91.7	93.4	92.6	93.3	93.2	91.9	93.4	91.0	89.5	91.3	91.3
7	**Machinery and transport equipment**	100.5	100.6	100.4	100.6	100.5	100.6	100.1	100.0	100.1	99.8	99.6	99.6	99.5
71	Power generating machinery and equipment	105.6	105.9	106.0	106.0	105.9	106.2	106.2	106.2	106.3	106.2	106.8	106.7	106.9
72	Machinery specialized for particular industries	103.7	103.8	104.3	104.2	104.1	104.4	104.5	104.5	104.5	104.9	104.6	105.1	105.0
74	General industrial machines and parts, n.e.s., and machine parts	104.1	104.6	104.7	105.2	105.0	105.3	105.2	105.4	105.4	105.4	105.6	105.6	105.7
75	Computer equipment and office machines	86.7	86.3	85.1	84.7	84.0	84.0	83.7	83.0	82.7	81.6	80.8	80.5	79.8
76	Telecommunications and sound recording and reproducing apparatus and equipment	99.9	99.9	99.6	99.6	99.7	99.7	99.2	99.5	99.4	98.7	98.6	98.4	98.8
77	Electrical machinery and equipment	96.7	96.9	96.8	96.5	96.5	96.7	95.1	94.8	94.9	94.4	94.0	93.6	93.6
78	Road vehicles	101.8	101.9	101.7	101.8	102.0	101.9	101.7	101.8	101.9	102.0	102.0	102.0	102.0
87	**Professional, scientific, and controlling instruments and apparatus**	103.8	103.1	103.3	103.4	103.5	103.5	103.4	103.3	103.3	103.5	103.5	103.7	103.6

35. U.S. import price indexes by Standard International Trade Classification

[1995 = 100, unless otherwise indicated]

SITC Rev. 3	Industry	1997										1998		
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
0	**Food and live animals**	101.8	99.5	102.1	103.7	100.5	100.9	101.3	100.4	99.4	99.6	99.2	97.9	98.8
01	Meat and meat preparations	103.5	104.7	103.5	101.9	101.9	104.2	103.9	102.7	102.7	104.2	101.3	101.3	101.2
03	Fish and crustaceans, mollusks, and other aquatic invertebrates	99.7	100.4	102.1	103.6	104.4	104.6	104.5	107.4	107.3	105.6	105.4	106.4	107.2
05	Vegetables, fruit, and nuts, prepared fresh or dry	111.1	101.5	101.0	101.7	101.2	103.2	103.4	103.1	103.8	102.5	102.9	95.3	99.3
07	Coffee, tea, cocoa, spices, and manufactures thereof	98.6	98.1	107.8	118.4	99.6	97.5	100.0	92.1	86.2	92.1	94.7	97.1	94.0
1	**Beverages and tobacco**	106.9	107.2	107.0	107.5	107.7	107.7	107.8	107.9	108.4	108.6	109.0	109.5	109.2
11	Beverages	103.3	103.6	103.5	104.0	104.2	104.2	104.3	104.4	105.1	105.2	105.4	105.9	105.8
2	**Crude materials, inedible, except fuels**	99.0	97.6	99.8	97.4	97.3	96.8	96.6	94.8	94.0	93.5	91.4	95.1	91.1
23	Crude rubber (including synthetic and reclaimed)	88.3	84.8	82.1	83.9	77.7	77.2	74.5	72.4	71.2	69.1	62.5	65.5	63.5
24	Cork and wood	126.2	124.9	126.9	122.5	123.3	120.9	121.2	113.1	114.0	113.1	109.7	110.0	110.7
25	Pulp and waste paper	64.9	63.8	64.4	65.8	66.5	67.9	68.2	69.0	69.2	68.7	68.3	64.5	64.2
28	Metalliferous ores and metal scrap	103.0	106.0	105.6	105.8	104.6	104.7	104.5	103.7	102.5	102.3	100.3	100.0	100.5
29	Crude animal and vegetable materials, n.e.s.	105.2	94.3	118.1	97.3	102.1	101.8	103.1	113.2	104.8	107.0	108.6	158.2	110.0
3	**Mineral fuels, lubricants, and related products**	113.9	105.3	106.6	104.6	104.4	106.2	107.0	113.1	111.8	103.3	93.7	87.6	80.2
33	Petroleum, petroleum products, and related materials	113.1	104.8	106.4	104.0	103.0	105.1	105.5	111.5	107.8	100.1	89.8	84.1	76.0
34	Gas, natural and manufactured	125.9	113.7	112.0	113.3	119.8	119.7	123.7	132.0	149.7	133.4	127.6	117.4	114.7
5	**Chemicals and related products, n.e.s.**	97.8	96.6	96.5	96.4	96.2	96.4	96.2	95.6	95.2	95.2	94.2	93.8	93.2
52	Inorganic chemicals	101.5	101.1	100.8	99.0	97.9	98.6	99.7	99.7	99.0	97.3	94.1	94.0	94.6
53	Dying, tanning, and coloring materials	96.9	97.1	97.1	97.9	97.7	95.4	94.0	94.2	96.3	96.9	95.3	94.7	95.1
54	Medicinal and pharmaceutical products	96.0	96.0	95.4	96.3	96.3	96.2	95.7	96.2	96.2	96.8	96.4	95.8	95.8
55	Essential oils; polishing and cleaning preparations	98.2	98.8	98.7	97.0	96.9	97.8	96.9	97.4	96.6	97.5	96.2	96.3	96.0
57	Plastics in primary forms (12/92 = 100)	91.6	89.6	90.9	91.6	91.7	91.9	92.6	92.7	91.6	92.0	92.4	96.5	94.1
58	Plastics in nonprimary forms (12/92 = 100)	86.1	86.2	85.8	88.6	88.7	87.4	86.9	85.9	82.9	82.8	82.5	82.4	81.3
59	Chemical materials and products, n.e.s.	104.6	104.2	104.2	103.5	103.2	103.3	103.2	102.8	102.8	103.1	102.9	101.4	101.8
6	**Manufactured goods classified chiefly by materials**	96.0	95.9	96.4	96.8	96.6	96.5	96.8	96.7	96.6	96.0	95.1	94.6	94.5
62	Rubber manufactures, n.e.s.	97.4	97.5	97.4	97.6	96.7	95.8	95.1	95.3	95.4	95.5	95.2	95.2	95.2
64	Paper, paperboard, and articles of paper, pulp, and paperboard	85.0	85.6	87.9	87.5	87.6	88.0	88.8	88.9	89.7	88.5	86.7	86.4	86.5
66	Nonmetallic mineral manufactures, n.e.s.	103.2	102.8	103.2	102.6	103.0	102.5	102.1	102.2	102.2	101.7	101.3	100.7	100.6
68	Nonferrous metals	91.1	90.6	91.8	95.1	94.0	94.6	96.9	95.3	93.4	92.1	90.5	90.6	91.2
69	Manufactures of metals, n.e.s.	99.5	99.0	98.9	99.0	98.8	98.3	98.1	98.5	98.3	98.5	97.9	97.5	97.3
7	**Machinery and transport equipment**	96.5	96.0	95.5	95.7	95.4	95.0	94.8	94.5	94.3	94.0	93.6	93.3	93.1
72	Machinery specialized for particular industries	99.7	99.2	98.9	99.3	99.3	98.6	98.4	98.6	99.0	99.1	98.7	98.1	98.2
74	General industrial machines and parts, n.e.s., and machine parts	98.5	98.1	97.9	98.3	98.2	97.6	97.2	97.4	97.3	97.3	96.9	96.3	96.3
75	Computer equipment and office machines	84.4	83.2	81.9	81.2	80.2	78.9	78.2	77.1	76.7	76.8	75.4	74.4	73.5
76	Telecommunications and sound recording and reproducing apparatus and equipment	94.4	93.7	93.1	93.4	93.3	92.9	92.6	92.3	91.9	91.7	91.4	91.0	90.9
77	Electrical machinery and equipment	90.8	90.1	89.8	90.2	89.7	89.6	89.2	88.6	87.7	86.6	86.2	86.1	85.9
78	Road vehicles	100.8	100.6	100.4	100.8	100.9	101.1	101.3	101.6	101.6	101.5	101.4	101.3	101.5
85	Footwear	101.0	101.0	100.9	101.1	101.2	101.1	100.8	101.0	101.0	101.2	101.2	101.1	100.7
88	Photographic apparatus, equipment, and supplies, and optical goods, n.e.s.	95.3	95.6	94.3	94.4	95.1	94.4	93.6	93.4	92.6	93.1	92.3	92.1	91.8

36. U.S. export price indexes by end-use category

[1995 = 100]

Category	1997										1998		
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
ALL COMMODITIES	99.7	99.7	99.4	99.3	99.3	99.3	99.0	98.6	98.6	98.2	97.5	97.2	97.0
Foods, feeds, and beverages	106.1	105.8	104.6	102.3	101.2	101.8	101.8	99.8	100.2	99.3	97.0	95.0	94.4
Agricultural foods, feeds, and beverages	107.6	107.4	106.3	103.8	102.4	102.5	102.2	100.1	100.7	100.0	97.6	96.2	95.3
Nonagricultural (fish, beverages) food products	90.7	89.4	88.0	87.6	89.0	96.2	98.5	98.0	95.7	94.1	90.9	83.8	86.3
Industrial supplies and materials	95.3	95.3	95.2	95.5	95.8	95.4	95.1	94.8	94.5	93.7	92.3	92.1	91.4
Agricultural industrial supplies and materials	95.9	94.1	92.6	91.6	92.2	92.3	93.0	93.1	94.0	92.7	88.3	87.1	87.9
Fuels and lubricants	110.7	110.2	110.0	110.0	110.1	110.4	110.9	111.3	110.7	110.2	107.1	106.2	103.4
Nonagricultural supplies and materials, excluding fuel and building materials	92.5	92.8	92.8	93.3	93.6	93.2	92.8	92.4	92.3	91.4	90.4	90.3	89.7
Selected building materials	97.1	95.5	95.4	94.8	94.7	93.8	92.8	91.2	89.3	89.3	89.2	88.7	88.1
Capital goods	100.4	100.3	100.1	100.2	100.0	100.1	99.5	99.3	99.3	98.9	98.8	98.8	98.7
Electric and electrical generating equipment	100.5	100.7	100.6	101.1	101.2	102.2	101.8	101.9	102.2	102.2	101.7	101.1	101.3
Nonelectrical machinery	98.3	98.2	97.9	97.7	97.5	97.5	96.7	96.5	96.4	95.9	95.8	95.8	95.7
Automotive vehicles, parts, and engines	101.9	102.2	102.1	102.1	102.3	102.3	102.1	102.2	102.3	102.3	102.3	102.3	102.3
Consumer goods, excluding automotive	101.7	101.8	101.9	102.0	102.2	102.2	102.6	102.6	102.6	102.7	102.5	102.5	102.5
Nondurables, manufactured	101.4	101.1	101.2	101.5	101.7	101.7	102.3	102.1	102.0	102.1	102.2	102.2	102.4
Durables, manufactured	101.4	102.0	102.1	102.0	102.0	102.1	101.9	102.2	102.1	102.0	101.7	101.6	101.4
Agricultural commodities	105.1	104.7	103.4	101.3	100.2	100.3	100.2	98.4	99.1	98.3	95.6	94.2	93.6
Nonagricultural commodities	99.0	99.0	99.0	99.1	99.1	99.1	98.8	98.6	98.5	98.1	97.7	97.6	97.3

37. U.S. import price indexes by end-use category

[1995 = 100]

Category	1997										1998		
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
ALL COMMODITIES	99.4	98.3	98.3	98.2	98.0	97.9	97.8	98.0	97.6	96.6	95.3	94.5	93.6
Foods, feeds, and beverages	101.4	99.6	100.8	101.9	99.4	99.2	99.6	98.8	97.9	98.1	97.7	97.0	97.2
Agricultural foods, feeds, and beverages	101.8	99.0	100.3	101.3	97.5	97.3	97.9	96.3	95.2	95.7	95.3	94.0	94.2
Nonagricultural (fish, beverages) food products	100.1	100.9	101.8	103.1	104.2	104.1	104.1	105.2	105.2	104.1	103.9	104.7	105.1
Industrial supplies and materials	103.4	100.4	101.0	100.4	100.1	100.8	101.1	102.5	101.8	98.6	94.6	92.2	89.8
Fuels and lubricants	114.3	105.8	106.8	104.9	104.6	106.6	107.2	113.2	111.5	103.3	94.1	88.3	81.2
Petroleum and petroleum products	113.7	105.3	106.6	104.5	103.1	105.5	105.7	111.6	107.7	100.4	90.5	84.9	77.1
Paper and paper base stocks	79.8	80.1	82.0	81.9	82.1	82.7	83.4	83.7	84.4	83.3	81.5	80.3	80.3
Materials associated with nondurable supplies and materials	96.9	96.1	96.3	95.8	95.5	95.6	95.4	94.6	94.3	93.8	92.7	92.1	91.7
Selected building materials	114.7	113.7	114.8	112.3	112.8	111.7	111.6	107.6	108.3	107.6	105.0	104.7	104.6
Unfinished metals associated with durable goods	95.5	95.8	96.2	98.0	97.4	97.3	98.5	97.4	96.4	95.5	94.0	93.8	94.0
Nonmetals associated with durable goods	96.7	96.0	95.8	95.7	95.6	95.1	94.1	94.2	94.2	94.2	93.7	92.6	92.5
Capital goods	93.5	92.6	92.0	92.1	91.7	91.0	90.5	89.8	89.4	89.0	88.2	87.6	87.2
Electric and electrical generating equipment	97.6	97.6	97.3	97.1	96.9	97.1	96.8	96.8	96.6	96.0	95.5	95.7	95.7
Nonelectrical machinery	91.7	90.7	90.0	90.1	89.7	88.9	88.3	87.4	87.0	86.5	85.7	84.9	84.5
Automotive vehicles, parts, and engines	100.8	100.6	100.3	100.8	100.9	101.0	101.2	101.4	101.4	101.3	101.3	101.3	101.3
Consumer goods, excluding automotive	99.6	99.6	99.7	99.5	99.6	99.4	99.2	99.3	99.1	99.2	99.0	99.1	98.7
Nondurables, manufactured	100.5	100.8	101.0	101.0	100.9	100.8	100.8	101.1	100.8	101.0	101.0	100.9	100.9
Durables, manufactured	98.5	98.4	98.0	98.1	98.1	97.8	97.4	97.3	97.1	97.2	96.9	96.6	96.4
Nonmanufactured consumer goods	100.4	98.9	102.8	99.1	99.8	99.8	99.9	101.4	100.1	99.4	98.9	105.8	98.1

38. U.S. international price indexes for selected categories of services

[1990 = 100, unless otherwise indicated]

Category	1996				1997				1998
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Air freight (inbound) (9/90 = 100)	95.9	95.1	95.6	95.0	89.5	89.9	88.5	86.5	82.9
Air freight (outbound) (9/92 = 100)	99.1	99.4	98.9	99.2	99.8	99.2	99.6	97.7	97.2
Air passenger fares (U.S. carriers)	98.3	104.3	107.3	101.6	97.1	112.1	109.2	99.5	99.3
Air passenger fares (foreign carriers)	96.3	103.0	105.5	100.7	98.5	106.1	104.6	99.7	97.7
Ocean liner freight (inbound)	101.5	99.6	98.0	98.4	97.6	96.8	94.9	92.9	92.7

39. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

[1992 = 100]

Item	Quarterly indexes												
	1994	1995				1996				1997			
	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
Business													
Output per hour of all persons	100.7	100.1	100.3	100.6	101.2	102.0	102.8	102.6	103.1	103.5	104.1	105.0	105.5
Compensation per hour	105.0	105.7	106.5	107.3	108.3	109.3	110.8	111.8	112.7	113.8	114.7	115.9	117.5
Real compensation per hour	98.3	98.2	98.2	98.4	98.8	98.9	99.4	99.6	99.6	100.0	100.5	101.1	101.9
Unit labor costs	104.3	105.5	106.1	106.7	107.0	107.2	107.8	108.9	109.3	110.0	110.2	110.4	111.4
Unit nonlabor payments	108.3	108.3	108.4	108.8	109.1	110.5	111.0	110.7	111.3	111.6	112.4	112.9	111.8
Implicit price deflator	105.8	106.5	107.0	107.4	107.8	108.4	108.9	109.6	110.0	110.6	111.0	111.3	111.5
Nonfarm business													
Output per hour of all persons	100.7	100.3	100.5	100.8	101.4	102.1	102.8	102.6	103.1	103.4	104.0	104.9	105.3
Compensation per hour	104.9	105.5	106.3	107.1	108.1	109.1	110.5	111.4	112.3	113.5	114.4	115.5	117.0
Real compensation per hour	98.2	98.1	98.1	98.3	98.6	98.7	99.1	99.3	99.3	99.7	100.2	100.7	101.4
Unit labor costs	104.2	105.2	105.8	106.3	106.7	106.9	107.5	108.6	109.0	109.8	110.0	110.1	111.0
Unit nonlabor payments	109.2	109.6	109.6	109.7	109.8	111.0	111.3	110.9	111.4	111.7	112.4	113.2	112.2
Implicit price deflator	106.0	106.8	107.2	107.5	107.8	108.4	108.8	109.4	109.8	110.5	110.9	111.2	111.5
Nonfinancial corporations													
Output per hour of all employees	103.7	102.9	103.4	104.7	105.4	106.0	107.1	107.8	108.3	108.8	109.4	111.1	–
Compensation per hour	104.5	105.1	105.9	106.6	107.5	108.3	109.7	110.7	111.5	112.6	113.5	114.7	–
Real compensation per hour	97.8	97.7	97.6	97.8	98.0	98.0	98.4	98.6	98.6	98.9	99.5	100.0	–
Total unit costs	100.3	101.6	101.8	101.1	101.2	101.4	101.4	101.5	101.5	101.8	102.0	101.5	–
Unit labor costs	100.8	102.2	102.4	101.9	102.0	102.1	102.4	102.7	102.9	103.5	103.7	103.2	–
Unit nonlabor costs	99.1	99.8	100.1	99.0	99.1	99.2	98.4	98.1	97.4	97.0	97.1	96.6	–
Unit profits	142.1	135.2	134.9	145.5	147.3	152.5	154.7	156.0	156.4	157.9	159.1	164.5	–
Unit nonlabor payments	111.0	109.6	109.7	111.9	112.4	114.0	114.0	114.1	113.7	113.8	114.3	115.4	–
Implicit price deflator	104.1	104.6	104.8	105.1	105.4	106.0	106.2	106.4	106.5	106.9	107.2	107.2	–
Manufacturing													
Output per hour of all persons	105.7	106.6	107.7	108.8	109.2	110.4	111.6	113.0	114.0	114.9	116.0	118.3	119.5
Compensation per hour	106.6	107.2	108.2	109.2	110.1	110.8	112.1	112.9	113.5	114.7	115.4	116.4	118.1
Real compensation per hour	99.8	99.6	99.8	100.2	100.4	100.2	100.5	100.6	100.3	100.8	101.1	101.5	102.5
Unit labor costs	100.9	100.6	100.5	100.4	100.8	100.3	100.4	99.9	99.5	99.8	99.5	98.4	98.9

– Data not available.

40. Annual indexes of multifactor productivity and related measures, selected years

[1987 = 100, unless otherwise indicated]

Item	1960	1970	1973	1980	1988	1989	1990	1991	1992	1993	1994
Private business											
Productivity:											
Output per hour of all persons	53.5	74.8	83.0	89.1	100.9	101.0	101.9	102.9	105.9	106.4	107.3
Output per unit of capital services	115.9	115.1	120.1	105.8	101.3	101.3	99.8	97.0	98.1	99.1	100.7
Multifactor productivity	70.5	87.2	95.3	96.0	100.5	100.2	100.1	99.1	100.5	101.0	101.8
Output	37.8	57.4	67.9	79.9	104.3	107.0	107.9	106.5	109.3	112.5	117.4
Inputs:											
Labor input	66.7	74.2	78.7	86.8	104.2	107.2	107.8	106.5	107.5	110.4	114.8
Capital services	32.6	49.9	56.6	75.5	102.9	105.7	108.1	109.8	111.4	113.5	116.6
Combined units of labor and capital input	53.6	65.8	71.3	83.2	103.8	106.7	107.9	107.5	108.7	111.3	115.4
Capital per hour of all persons	46.2	65.0	69.2	84.2	99.6	99.7	102.1	106.1	108.0	107.4	106.6
Private nonfarm business											
Productivity:											
Output per hour of all persons	57.7	77.3	85.6	90.6	100.9	100.7	101.3	102.5	105.1	105.6	106.4
Output per unit of capital services	122.6	120.5	125.2	108.2	101.3	100.8	99.1	96.2	96.9	98.1	99.3
Multifactor productivity	74.9	89.9	98.1	97.7	100.5	99.9	99.4	98.5	99.6	100.2	100.7
Output	37.4	57.4	68.3	80.2	104.5	107.1	107.8	106.4	108.9	112.4	117.1
Inputs:											
Labor input	61.4	72.0	76.9	85.7	104.4	107.6	108.3	106.8	108.0	111.2	115.6
Capital services	30.5	47.7	54.5	74.2	103.2	106.2	108.8	110.6	112.4	114.7	118.0
Combined units of labor and capital input	49.9	63.9	69.6	82.1	104.0	107.2	108.5	107.9	109.3	112.2	116.3
Capital per hour of all persons	47.0	64.1	68.3	83.8	99.6	99.9	102.2	106.6	108.5	107.7	107.1
Manufacturing (1992 = 100)											
Productivity:											
Output per hour of all persons	41.3	55.3	62.7	71.1	91.4	92.5	94.2	96.4	100.0	102.2	104.8
Output per unit of capital services	132.5	125.9	137.1	110.1	109.4	107.9	103.9	99.3	100.0	101.0	102.3
Multifactor productivity	71.2	82.6	90.2	86.4	100.8	99.5	99.9	98.1	100.0	101.4	103.7
Output	38.0	57.6	69.2	76.4	97.6	99.2	98.8	96.9	100.0	103.6	108.7
Inputs:											
Hours of all persons	92.1	104.2	110.5	107.5	106.8	107.2	104.9	100.6	100.0	101.4	103.7
Capital services	28.7	45.7	50.5	69.4	89.2	92.0	95.1	97.6	100.0	102.6	106.2

NOTE: Productivity and output in this table have not been revised for consistency with the December 1991 comprehensive revisions to the National Income and Product Accounts.

41. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

[1992 = 100]

Item	1960	1970	1973	1980	1988	1989	1990	1991	1993	1994	1995	1996	1997
Business													
Output per hour of all persons	51.4	70.5	78.4	84.2	94.6	95.4	96.1	96.7	100.2	100.6	100.5	102.6	104.5
Compensation per hour	13.6	23.6	29.0	54.5	83.5	85.8	90.7	95.1	102.6	104.3	106.9	111.1	115.4
Real compensation per hour	64.7	85.4	91.6	92.7	99.0	97.1	97.4	97.9	99.6	98.7	98.4	99.3	100.9
Unit labor costs	26.6	33.5	37.0	64.7	88.2	89.9	94.4	98.3	102.4	103.7	106.3	108.3	110.5
Unit nonlabor payments	24.6	30.6	36.6	59.6	84.1	91.3	93.5	96.6	102.7	106.8	108.7	110.9	112.2
Implicit price deflator	25.8	32.4	36.8	62.8	86.8	90.4	94.1	97.7	102.5	104.8	107.2	109.2	111.1
Nonfarm business													
Output per hour of all persons	54.8	72.6	80.7	86.0	95.2	95.7	96.2	96.9	100.1	100.5	100.7	102.6	104.3
Compensation per hour	14.3	23.8	29.2	54.8	83.6	85.8	90.6	95.1	102.3	104.1	106.7	110.8	115.0
Real compensation per hour	67.7	86.1	92.3	93.3	99.1	97.1	97.3	97.9	99.3	98.5	98.3	99.1	100.6
Unit labor costs	26.1	32.8	36.2	63.8	87.8	89.7	94.1	98.1	102.2	103.6	106.0	108.0	110.2
Unit nonlabor payments	24.0	30.3	34.3	58.6	83.8	90.7	93.2	96.8	103.1	107.4	109.7	111.2	112.4
Implicit price deflator	25.3	31.9	35.5	61.9	86.4	90.0	93.8	97.6	102.5	104.9	107.3	109.1	111.0
Nonfinancial corporations													
Output per hour of all employees	54.5	69.0	74.4	80.3	96.7	95.4	96.1	97.5	101.2	103.3	104.1	107.3	–
Compensation per hour	15.6	25.4	30.7	56.7	84.8	86.9	91.4	95.6	102.1	103.9	106.3	110.1	–
Real compensation per hour	73.9	91.7	97.2	96.5	100.6	98.4	98.1	98.5	99.1	98.4	97.9	98.4	–
Total unit costs	27.8	36.1	40.3	70.2	88.2	92.5	96.2	99.3	100.5	100.3	101.4	101.4	–
Unit labor costs	28.6	36.7	41.3	70.5	87.7	91.1	95.2	98.0	100.9	100.6	102.1	102.6	–
Unit nonlabor costs	25.3	34.3	37.5	69.2	89.7	96.3	99.1	103.0	99.4	99.7	99.5	98.3	–
Unit profits	47.7	42.0	52.8	64.4	103.8	96.0	94.6	93.9	113.3	134.5	140.8	154.9	–
Unit nonlabor payments	31.5	36.4	41.7	67.9	93.6	96.2	97.9	100.5	103.2	109.4	110.9	114.0	–
Implicit price deflator	29.6	36.6	41.5	69.7	89.6	92.8	96.1	98.8	101.7	103.4	105.0	106.3	–
Manufacturing													
Output per hour of all persons	41.2	55.1	62.6	71.0	91.4	92.6	94.3	96.4	102.2	104.7	108.1	112.1	117.1
Compensation per hour	14.9	23.8	28.6	55.8	84.0	86.8	91.0	95.7	102.9	105.6	108.7	112.1	116.1
Real compensation per hour	70.6	86.1	90.5	94.9	99.6	98.2	97.6	98.6	99.9	100.0	100.1	100.3	101.5
Unit labor costs	36.1	43.2	45.7	78.5	91.9	93.7	96.5	99.3	100.7	100.8	100.6	100.0	99.1
Unit nonlabor payments	26.6	30.1	37.0	79.5	91.2	96.8	100.1	99.6	101.1	103.0	107.8	–	–
Implicit price deflator	30.3	35.2	40.4	79.2	91.5	95.6	98.7	99.5	101.0	102.2	105.0	–	–

– Data not available.

42. Annual indexes of output per hour for selected industries

[1987 = 100]

Industry	SIC	1973	1984	1985	1986	1988	1989	1990	1991	1992	1993	1994	1995
Iron mining, usable ore	101	50.8	70.0	76.1	79.3	103.1	98.4	88.5	85.0	83.3	86.9	85.0	95.9
Copper mining, recoverable metal	102	42.4	75.9	93.6	109.7	109.1	106.5	102.7	100.5	115.2	118.1	126.0	120.3
Coal mining	12	68.9	83.4	85.1	92.4	110.5	116.4	118.3	122.1	132.7	140.4	147.3	153.9
Crude petroleum and natural gas production	131	173.5	81.9	83.0	90.3	100.9	98.0	96.9	97.9	102.1	105.9	112.4	120.5
Nonmetallic minerals, except fuels	14	86.5	94.0	95.1	95.1	101.0	99.6	101.4	98.5	103.0	100.8	104.4	103.0
Meat packing plants	2011	65.1	93.6	98.3	98.7	100.9	97.9	96.8	100.2	104.5	105.1	101.0	101.7
Sausages and other prepared meats	2013	67.2	99.3	97.8	98.6	107.1	105.9	97.4	95.9	104.6	105.0	101.4	105.3
Poultry dressing and processing	2015	58.0	99.1	100.5	95.6	96.2	105.2	108.6	115.4	119.6	119.8	119.4	122.5
Cheese, natural and processed	2022	72.1	85.1	88.2	93.5	99.8	102.6	108.2	114.6	121.8	115.5	117.5	120.5
Fluid milk	2026	54.6	88.9	92.0	96.0	102.3	103.7	103.3	104.3	104.0	107.1	112.9	115.8
Canned fruits and vegetables	2033	70.1	87.4	92.8	99.1	98.7	92.9	93.8	100.1	101.5	106.6	101.5	109.3
Frozen fruits and vegetables	2037	77.9	99.7	95.2	103.3	94.0	98.0	90.0	94.6	96.4	102.8	109.3	111.1
Flour and other grain mill products	2041	68.5	91.7	95.8	95.9	102.5	102.5	107.9	108.3	111.9	122.2	126.8	117.6
Cereal breakfast foods	2043	65.6	92.8	97.1	98.6	98.6	95.5	100.2	102.3	99.1	95.5	106.6	118.4
Rice milling	2044	59.3	63.8	68.6	72.7	83.1	97.5	104.9	99.3	101.4	129.5	109.2	102.6
Wet corn milling	2046	24.1	74.9	74.6	97.3	96.1	103.6	103.8	100.4	101.8	112.0	110.0	122.5
Prepared feeds for animals and fowls	2047,48	51.6	89.2	96.9	95.2	101.5	103.7	107.0	108.0	108.1	110.7	108.5	115.6
Bakery products	205	82.3	93.4	95.6	100.1	93.4	91.0	93.2	89.2	89.4	90.3	91.1	92.2
Raw and refined cane sugar	2061,62	78.5	89.1	96.6	96.9	99.7	101.8	107.7	110.3	111.7	120.2	115.0	121.8
Beet sugar	2063	75.9	79.7	73.4	80.8	97.6	92.1	97.6	102.3	110.8	109.8	124.2	135.9
Malt beverages	2082	43.3	77.7	73.7	85.0	99.1	105.2	110.6	109.6	113.4	112.6	117.5	118.0
Bottled and canned soft drinks	2086	49.2	81.6	85.2	91.4	109.8	119.4	126.7	135.1	144.2	144.7	150.4	160.0
Fresh or frozen prepared fish	2092	93.3	89.4	87.8	91.2	100.0	94.6	88.9	87.4	95.6	100.1	93.2	88.1
Cigarettes, chewing and smoking tobacco	211,3	79.4	91.3	93.6	95.4	104.8	106.7	109.9	111.6	113.4	101.6	130.1	149.2
Cotton and synthetic broadwoven fabrics	221,2	58.1	91.1	94.8	101.1	100.0	103.9	108.1	113.8	118.4	125.8	134.1	142.8
Hosiery	2251,52	63.2	102.4	100.9	102.5	108.1	110.9	109.2	115.7	122.2	117.4	124.8	127.1
Yarn spinning mills	2281	55.9	86.2	89.6	93.2	98.5	103.3	106.0	105.5	114.1	120.0	125.5	133.2
Men's and boys' suits and coats	231	75.6	93.2	106.3	103.5	102.4	101.9	98.7	91.4	102.4	109.0	129.1	121.5
Housefurnishings, except curtains and draperies	2392	87.2	83.6	92.4	93.6	99.8	96.8	101.3	110.9	117.9	118.7	114.1	115.4
Sawmills and planing mills, general	2421	68.3	89.7	93.5	102.3	101.2	100.1	99.9	102.9	108.9	101.5	103.2	110.3
Hardwood dimension and flooring mills	2426	84.0	85.6	95.1	98.8	97.5	96.9	95.7	98.6	105.4	111.2	111.0	117.1
Millwork	2431	104.2	100.4	97.4	102.2	98.2	97.8	97.8	95.7	93.4	92.5	88.5	86.0
Wood kitchen cabinets	2434	80.5	91.6	87.1	85.2	97.7	91.1	93.6	92.3	102.0	101.9	101.3	102.8
Hardwood veneer and plywood	2435	80.2	83.9	84.5	83.2	99.0	98.9	92.2	93.3	104.1	106.1	90.5	84.2
Softwood veneer and plywood	2436	67.7	87.1	88.3	90.4	100.6	102.6	108.3	114.3	109.2	103.4	101.4	101.5
Wood containers	244	–	103.4	99.6	98.7	103.2	108.8	111.6	113.5	109.8	100.5	101.0	107.1
Mobile homes	2451	–	94.4	94.3	94.4	100.6	98.8	101.2	102.5	102.4	103.8	97.6	99.7
Wood household furniture	2511,17	88.5	96.9	95.0	99.6	100.8	101.2	102.5	101.3	106.5	106.2	105.7	109.1
Upholstered household furniture	2512	75.1	96.2	96.3	101.7	98.8	101.2	107.7	115.1	120.0	120.0	130.6	138.7
Metal household furniture	2514	68.7	84.9	89.4	95.3	100.2	100.7	101.4	107.2	109.5	106.8	96.1	95.1
Mattresses and bedsprings	2515	68.0	84.1	79.5	85.5	92.5	106.5	106.2	108.9	103.4	104.4	105.5	110.9
Wood office furniture	2521	82.5	99.3	99.4	96.2	95.4	95.4	97.4	101.3	107.1	104.4	104.0	103.3
Office furniture, except wood	2522	70.6	97.6	96.9	100.6	96.0	98.7	95.6	92.9	93.9	94.3	95.4	98.4
Pulp, paper, and paperboard mills	261,2,3	67.1	89.7	87.6	93.3	103.1	103.2	102.6	102.1	104.7	104.5	112.4	116.2
Corrugated and solid fiber boxes	2635	70.3	96.7	99.6	102.8	99.8	98.1	100.9	100.8	101.9	105.5	110.0	107.6
Folding paperboard boxes	2657	86.4	93.4	90.0	88.5	101.6	105.4	105.3	110.9	116.4	117.9	122.9	126.8
Paper and plastic bags	2673,74	90.7	99.9	99.7	101.8	97.7	93.7	92.2	89.5	93.9	92.0	96.5	91.7
Alkalies and chlorine	2812	38.4	66.6	70.8	97.7	101.6	92.5	92.3	86.2	87.7	84.8	84.1	87.7
Inorganic pigments	2816	72.6	81.4	84.4	88.6	103.3	107.8	104.5	98.9	107.8	107.8	115.0	108.1
Industrial inorganic chemicals, n.e.s.	2819 pt.	90.6	88.4	87.3	88.6	97.5	105.9	109.0	102.3	104.9	110.7	113.2	126.5
Synthetic fibers	2823,24	38.4	79.8	79.3	90.8	102.9	104.1	98.7	97.5	99.3	112.3	119.4	125.7
Soaps and detergents	2841	89.1	90.5	91.5	92.3	102.4	109.4	128.2	126.4	115.3	112.6	111.7	126.0
Cosmetics and other toiletries	2844	88.6	87.3	90.3	96.6	105.2	102.7	101.1	103.9	108.4	108.5	111.6	115.2
Paints and allied products	285	63.2	93.6	96.9	98.0	101.4	103.3	106.3	104.3	102.9	108.8	116.7	116.6
Industrial organic chemicals, n.e.c.	2869	73.1	89.6	87.8	92.3	110.5	110.5	99.0	92.6	91.6	88.5	96.2	93.3
Nitrogenous fertilizers	2873	65.4	101.1	100.7	90.5	101.3	103.3	107.7	108.4	111.8	117.5	111.1	107.6
Phosphatic fertilizers	2874	62.4	88.4	84.2	79.6	92.0	83.3	99.7	107.3	105.0	106.0	122.6	118.1
Fertilizers, mixing only	2875	90.5	97.8	100.8	95.1	104.7	112.4	112.8	114.6	127.1	139.1	118.9	119.9
Agricultural chemicals, n.e.c.	2879	74.3	98.8	92.9	93.2	108.4	108.9	106.2	102.2	108.4	111.0	115.6	124.9
Petroleum refining	291	84.0	78.7	84.7	94.9	105.3	109.6	109.2	106.6	111.3	120.1	123.8	133.0
Tires and inner tubes	301	56.0	88.8	89.3	92.6	102.9	103.8	103.0	102.4	107.8	116.5	124.1	131.4
Rubber and plastics hose and belting	3052	78.4	104.9	100.1	102.1	108.2	97.8	103.3	96.1	104.3	111.3	102.9	102.0
Miscellaneous plastics products, n.e.c.	308	72.8	86.4	88.2	88.9	100.1	101.1	105.3	107.5	114.0	116.2	119.8	120.2
Footwear, except rubber	314	90.7	98.8	100.3	101.9	102.3	100.9	92.8	93.1	93.3	96.4	106.0	101.2
Glass containers	3221	75.2	97.4	93.4	98.5	99.6	101.6	107.5	108.1	111.5	106.0	111.0	109.9
Cement, hydraulic	324	71.3	89.4	91.8	97.1	103.2	110.2	112.4	108.3	115.1	119.9	125.6	123.4
Clay construction products	3251,53,59	78.5	92.7	94.2	95.5	105.2	98.3	102.3	97.4	98.9	102.3	108.0	111.3
Clay refractories	3255	80.1	96.9	94.9	100.8	102.3	98.5	103.6	97.9	98.6	95.0	107.3	96.0
Concrete products	3271,72	92.5	98.3	99.5	104.4	102.1	104.8	103.8	104.9	103.2	109.3	108.6	114.3
Ready-mixed concrete	3273	99.1	92.9	93.6	96.0	100.2	101.0	100.2	96.7	98.2	96.9	93.0	95.8
Steel	331	64.2	81.3	85.8	89.7	113.5	108.5	110.5	108.2	117.7	134.0	144.6	145.4
Gray and ductile iron foundries	3321	91.3	99.1	96.9	99.3	108.0	106.9	107.9	104.6	107.7	113.1	115.5	112.4
Steel foundries	3324,25	105.8	102.4	99.5	104.9	95.5	96.3	96.9	94.8	95.6	101.5	102.2	106.2
Primary copper	3331	32.8	57.6	73.8	88.7	103.8	94.7	84.9	82.5	71.9	86.9	74.0	77.3
Primary aluminum	3334	73.6	100.7	97.6	102.7	102.3	104.8	106.5	110.6	109.7	105.7	99.0	102.2
Copper rolling and drawing	3351	77.5	84.7	86.2	92.3	93.0	89.1	90.7	86.4	83.0	89.2	96.6	96.6

See footnotes at end of table.

42. Continued—Annual indexes of output per hour for selected industries

[1987 = 100]

Industry	SIC	1973	1984	1985	1986	1988	1989	1990	1991	1992	1993	1994	1995
Aluminum rolling and drawing	3353,54,55	79.0	92.3	85.7	95.8	96.3	90.6	91.2	90.3	96.5	93.9	99.6	93.9
Metal cans	3411	59.2	101.1	99.2	95.9	106.9	108.1	117.5	123.8	129.7	134.6	140.7	146.3
Hand and edge tools, n.e.c.	3423	108.6	97.9	98.8	97.1	100.5	101.0	95.0	93.1	93.1	93.3	100.8	98.4
Heating equipment, except electric	3433	78.0	91.6	91.9	96.2	113.7	105.0	114.0	119.4	121.2	121.8	130.2	131.1
Fabricated structural metal	3441	97.1	91.2	99.0	99.0	100.4	97.6	101.2	104.5	103.6	108.1	109.8	110.1
Metal doors, sash, and trim	3442	90.5	101.4	104.8	102.0	104.6	105.8	103.1	103.0	106.7	105.5	103.3	96.8
Fabricated plate work	3443	–	88.3	87.5	86.4	96.2	90.3	94.1	94.3	98.3	98.3	109.3	109.4
Bolts, nuts, rivets, and washers	3452	75.8	85.3	88.8	91.0	97.0	93.8	93.7	96.1	91.9	92.8	95.8	100.5
Automotive stampings	3465	74.9	100.5	94.5	95.7	102.8	101.8	96.1	97.3	113.8	120.8	124.9	128.4
Metal stampings, n.e.c.	3469	96.8	94.3	88.6	93.9	98.0	95.3	90.4	89.5	98.8	104.8	109.3	112.8
Valves and pipe fittings	3491,92,94	93.6	95.0	94.4	93.9	101.4	101.2	102.1	101.7	100.4	104.2	109.7	109.7
Fabricated pipe and fittings	3498	140.8	130.0	120.0	121.4	99.6	102.3	107.0	114.2	109.6	113.3	112.9	113.0
Internal combustion engines, n.e.c.	3519	83.1	90.2	92.0	98.5	106.3	113.2	108.4	103.3	101.2	104.3	119.5	124.9
Farm machinery and equipment	3523	108.6	112.7	101.6	95.7	112.8	124.0	131.8	125.3	119.1	123.7	131.4	143.4
Lawn and garden equipment	3524	70.0	79.3	82.4	93.2	97.5	93.2	94.8	95.8	108.7	114.7	116.6	126.3
Construction machinery	3531	87.9	91.6	92.2	99.1	107.6	110.2	109.6	101.0	100.6	107.0	123.2	132.9
Mining machinery	3532	102.2	90.2	93.7	95.1	102.0	107.0	98.4	90.0	90.1	109.5	99.5	109.3
Oil and gas field machinery	3533	156.9	126.0	115.2	105.9	123.1	116.1	113.9	110.9	125.7	122.1	119.9	117.5
Metal cutting machine tools	3541	101.4	87.2	89.9	92.0	94.8	99.9	99.2	94.8	113.0	111.4	110.0	111.9
Metal forming machine tools	3542	112.5	90.7	93.1	93.7	113.1	107.9	97.7	88.4	102.5	115.0	104.3	116.2
Machine tool accessories	3545	105.9	94.6	92.3	95.0	98.2	102.5	104.1	104.6	96.8	101.5	114.8	122.3
Pumps and pumping equipment	3561,94	84.0	92.0	91.9	92.7	105.7	101.3	103.4	102.5	98.6	105.2	110.6	113.4
Ball and roller bearings	3562	108.0	95.4	91.6	94.1	102.9	99.0	93.1	89.6	97.8	103.8	106.3	107.2
Air and gas compressors	3563	87.6	90.1	92.2	96.0	103.7	105.3	107.8	110.2	112.7	111.5	117.3	115.0
Refrigeration and heating equipment	3585	100.3	100.1	98.1	95.8	104.0	109.0	106.3	104.8	107.6	111.8	115.1	115.0
Carburetors, pistons, rings, and valves	3592	102.9	95.1	98.8	95.7	109.9	119.4	114.1	115.1	126.4	136.4	142.9	143.0
Transformers, except electronic	3612	100.2	95.4	97.0	99.3	102.8	104.3	107.3	110.7	126.5	121.8	143.4	159.9
Switchgear and switchboard apparatus	3613	88.2	92.2	95.1	95.9	109.1	106.5	106.5	103.9	114.6	123.1	123.8	131.7
Motors and generators	3621	89.0	93.3	94.9	96.8	102.8	103.6	100.9	104.4	111.5	127.1	124.4	139.1
Household cooking equipment	3631	61.8	92.0	90.3	104.6	116.1	96.8	99.5	104.9	100.9	103.7	127.4	125.5
Household refrigerators and freezers	3632	70.1	97.5	104.1	101.2	103.3	105.2	107.3	111.8	116.0	116.8	126.7	124.2
Household laundry equipment	3633	72.3	92.8	93.8	97.4	106.1	98.7	104.0	111.0	115.9	144.8	150.5	131.6
Household appliances, n.e.c.	3639	63.7	85.9	86.3	89.1	100.6	96.3	91.8	80.5	91.6	117.6	118.9	116.0
Electric lamp bulbs and tubes	3641	61.3	86.4	94.2	91.5	100.3	92.7	98.0	101.8	112.8	100.9	98.9	95.9
Lighting fixtures and equipment	3645,46,47,48	84.1	91.3	96.7	103.0	98.1	97.3	96.0	94.3	98.9	103.7	110.0	107.5
Household audio and video equipment	3651	22.3	84.7	96.3	106.9	106.2	120.5	124.1	135.7	151.8	163.1	179.3	225.3
Motor vehicles and equipment	371	68.7	91.1	95.3	95.1	103.2	103.3	102.4	96.7	104.3	105.4	107.3	104.4
Aircraft	3721	79.2	84.7	94.2	93.5	105.8	107.5	112.9	131.4	141.7	142.5	131.8	132.5
Instruments to measure electricity	3825	63.7	96.2	95.4	90.4	106.1	105.2	106.2	108.3	119.0	122.4	144.7	163.6
Photographic equipment and supplies	386	58.9	88.2	86.1	94.1	105.6	113.0	107.8	110.2	116.4	126.9	132.7	129.4
Railroad transportation	4011	46.5	78.0	81.5	89.2	108.4	114.6	118.5	127.8	139.6	145.6	–	–
Bus carriers, class 1	411,13,14 pts.	116.8	100.1	96.1	95.6	107.9	104.6	–	–	–	–	–	–
Trucking, except local	4213	69.5	97.3	93.8	96.8	105.2	109.4	–	–	–	–	–	–
U.S. Postal service	43	88.6	98.1	98.4	100.0	99.9	99.7	104.0	103.7	104.5	107.1	106.6	106.5
Air transportation	4512,13,22 pts.	54.3	88.8	92.0	93.8	99.5	95.8	92.9	92.5	96.9	100.2	105.8	108.4
Petroleum pipelines	4612,13	93.2	99.4	99.9	102.0	104.8	103.2	102.5	99.0	100.2	104.4	108.1	117.7
Telephone communications	481	42.7	84.5	88.9	95.0	106.2	111.6	113.3	119.8	127.7	135.2	141.6	144.6
Electric utilities	491,3 pt.	88.4	93.8	93.0	95.3	104.9	107.7	110.1	113.4	115.2	120.6	126.8	135.0
Gas utilities	492,3 pt	145.5	114.1	111.9	102.1	105.5	103.5	94.8	94.0	95.3	107.0	102.2	105.9
Scrap and waste materials	5093	–	89.1	93.4	97.7	95.4	86.0	98.6	98.9	101.7	109.4	107.7	108.9
Hardware stores	525	83.3	96.6	95.6	101.6	108.6	115.2	110.4	102.5	107.2	106.7	114.5	106.4
Department stores	531	60.8	90.4	92.6	97.4	99.2	96.9	94.2	98.2	101.2	105.0	107.1	107.6
Variety stores	533	148.9	141.9	129.2	106.7	101.9	124.5	151.3	154.3	167.7	170.4	160.5	159.3
General merchandise stores	539	–	78.6	80.9	97.5	100.8	109.8	116.4	121.8	136.1	159.9	161.6	165.9
Grocery stores	541	109.1	107.9	105.7	103.8	98.9	95.4	94.6	93.7	93.3	92.7	92.2	91.2
Retail bakeries	546	125.6	96.0	87.6	93.6	89.8	83.3	89.7	94.7	94.0	85.6	85.6	84.6
New and used car dealers	551	85.1	99.5	99.8	101.6	103.5	102.5	106.1	104.2	106.5	107.4	108.3	107.1
Auto and home supply stores	553	71.1	90.4	94.5	94.3	103.2	101.5	102.8	98.9	98.9	98.9	103.0	106.8
Gasoline service stations	554	59.5	87.0	93.5	101.8	103.0	105.1	102.6	104.3	109.7	112.4	115.0	119.2
Men's and boys' clothing stores	561	77.6	93.7	98.3	100.7	106.0	109.3	112.8	117.7	116.4	115.7	120.9	122.6
Women's clothing stores	562	58.9	98.0	99.8	107.0	97.5	99.1	100.8	101.9	110.7	116.2	118.1	122.9
Family clothing stores	565	76.2	106.2	103.1	103.3	102.4	105.5	104.9	106.9	112.3	111.6	114.9	128.4
Shoe stores	566	81.3	90.6	97.6	105.5	102.7	107.2	106.2	105.1	111.5	110.8	120.5	123.8
Furniture and homefurnishings stores	571	83.9	97.9	94.8	101.2	98.9	101.3	102.2	101.6	108.6	108.9	111.0	116.4
Household appliance stores	572	59.8	87.2	94.9	106.5	98.5	103.5	102.8	105.2	113.9	114.6	115.9	119.9
Radio, television, and computer stores	573	45.6	79.1	89.3	94.1	119.3	115.7	120.9	129.6	143.5	157.3	178.4	195.6
Eating and drinking places	58	110.3	98.9	96.2	99.3	102.8	102.2	104.0	103.1	102.4	103.1	101.4	102.2
Drug stores and proprietary stores	591	92.2	106.4	102.5	101.6	101.9	102.5	103.6	104.7	103.6	104.7	103.7	102.8
Liquor stores	592	95.0	93.6	101.9	93.8	98.2	101.1	105.2	105.9	108.4	100.5	98.7	104.4
Miscellaneous shopping goods stores	594	–	92.6	94.1	97.1	98.4	101.7	101.5	102.0	100.6	103.9	108.2	114.0
Catalog and mail-order houses	5961	–	80.6	80.8	87.2	107.3	111.4	102.1	107.2	113.8	121.0	120.0	123.9
Commercial banks	602	81.2	89.6	94.3	96.2	102.9	101.3	104.6	107.4	109.4	119.5	119.5	124.4
Hotels and motels	701	102.4	101.6	101.2	98.9	97.6	95.0	96.0	99.0	107.6	106.8	111.0	113.2
Laundry, cleaning, and garment services	721	110.8	107.5	103.3	100.8	97.2	100.5	101.0	98.7	99.9	99.9	101.9	105.1
Beauty shops	723	85.9	98.5	96.1	96.9	95.1	99.6	96.8	94.8	99.6	96.5	101.1	104.8
Automotive repair shops	753	109.4	91.7	99.4	96.2	105.7	108.1	106.9	98.7	103.3	102.9	110.4	116.4

n.e.s. = not elsewhere specified.

43. Unemployment rates, approximating U.S. concepts, in nine countries, quarterly data seasonally adjusted

Country	Annual average		1996				1997			
	1995	1996	I	II	III	IV	I	II	III	IV
United States	5.6	5.4	5.6	5.4	5.3	5.3	5.3	4.9	4.9	4.7
Canada	9.5	9.7	9.5	9.6	9.8	9.9	9.6	9.4	9.0	8.9
Australia	8.5	8.6	8.5	8.5	8.7	8.6	8.7	8.7	8.6	8.3
Japan	3.2	3.4	3.4	3.5	3.4	3.3	3.3	3.4	3.4	3.5
France	11.8	12.6	12.3	12.5	12.7	12.6	12.6	12.7	12.7	12.5
Germany	6.5	7.2	6.9	7.1	7.2	7.5	7.7	7.7	7.8	7.8
Italy[1]	12.0	12.1	12.0	12.1	12.2	12.1	12.3	12.4	12.2	12.3
Sweden	9.1	9.9	9.4	9.6	10.0	10.4	10.6	10.4	9.5	8.8
United Kingdom	8.7	8.2	8.3	8.3	8.2	7.9	7.5	7.3	6.9	6.6

[1] Quarterly rates are for the first month of the quarter.

NOTE: Quarterly figures for France, Germany, and the United Kingdom are calculated by applying annual adjustment factors to current published data, and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures. See "Notes on the data" for information on breaks in series. For further qualifications and historical data, see *Comparative Labor Force Statistics, 10 Countries* (Bureau of Labor Statistics, August 1996).

44. Annual data: Employment status of the working-age population, approximating U.S. concepts, 10 countries

[Numbers in thousands]

Employment status and country	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Civilian labor force										
United States[1]	119,865	121,669	123,869	125,840	126,346	128,105	129,200	131,056	132,304	133,943
Canada	13,631	13,900	14,151	14,329	14,408	14,482	14,663	14,832	14,928	15,145
Australia	7,758	7,974	8,228	8,444	8,490	8,562	8,619	8,776	9,001	9,127
Japan	60,050	60,860	61,920	63,050	64,280	65,040	65,470	65,780	65,990	66,450
France	23,890	23,980	24,170	24,300	24,490	24,570	24,640	24,760	24,860	25,100
Germany	28,390	28,610	28,840	29,410	29,760	30,030	29,950	29,860	29,710	29,590
Italy	22,350	22,660	22,530	22,670	22,940	22,910	22,760	22,640	22,700	22,820
Netherlands	6,500	6,310	6,430	6,640	6,750	6,950	7,090	7,190	7,270	7,320
Sweden	4,437	4,494	4,552	4,597	4,591	4,520	4,443	4,418	4,460	4,459
United Kingdom	27,870	28,270	28,580	28,730	28,610	28,410	28,310	28,280	28,480	28,620
Participation rate[2]										
United States[1]	65.6	65.9	66.5	66.5	66.2	66.4	66.3	66.6	66.6	66.8
Canada	66.7	67.2	67.5	67.3	66.7	65.9	65.5	65.3	64.8	64.9
Australia	63.0	63.3	64.0	64.6	64.1	63.9	63.6	63.9	64.6	64.6
Japan	61.9	61.9	62.2	62.6	63.2	63.4	63.3	63.1	62.9	63.0
France	56.5	56.2	56.1	56.0	56.0	55.8	55.6	55.5	55.3	55.5
Germany	55.0	55.1	55.2	55.3	55.4	55.1	54.2	53.7	53.2	52.8
Italy	47.6	47.4	47.3	47.2	47.7	47.5	48.1	47.5	47.6	47.7
Netherlands	56.3	54.2	54.7	56.1	56.5	57.8	58.5	59.0	59.3	59.4
Sweden	66.4	66.9	67.3	67.4	67.0	65.7	64.5	63.9	64.3	64.3
United Kingdom	62.9	63.5	64.0	64.1	63.7	63.1	62.8	62.5	62.7	62.7
Employed										
United States[1]	112,440	114,968	117,342	118,793	117,718	118,492	120,259	123,060	124,900	126,708
Canada	12,422	12,819	13,086	13,165	12,916	12,842	13,015	13,292	13,506	13,676
Australia	7,129	7,398	7,720	7,859	7,676	7,637	7,680	7,921	8,235	8,344
Japan	58,320	59,310	60,500	61,710	62,920	63,620	63,810	63,860	63,890	64,200
France	21,320	21,520	21,850	22,100	22,140	22,010	21,730	21,710	21,940	21,950
Germany	26,590	26,800	27,200	27,950	28,480	28,660	28,230	27,920	27,770	27,470
Italy	20,590	20,870	20,770	21,080	21,360	21,230	20,430	20,080	19,970	20,050
Netherlands	5,850	5,830	5,980	6,230	6,350	6,560	6,620	6,670	6,760	6,850
Sweden	4,340	4,410	4,480	4,513	4,447	4,265	4,028	3,992	4,056	4,019
United Kingdom	25,010	25,850	26,510	26,740	26,090	25,530	25,340	25,550	26,000	26,280
Employment-population ratio[3]										
United States[1]	61.5	62.3	63.0	62.8	61.7	61.5	61.7	62.5	62.9	63.2
Canada	60.8	62.0	62.4	61.9	59.8	58.4	58.2	58.5	58.6	58.6
Australia	57.9	58.7	60.1	60.1	57.9	57.0	56.6	57.7	59.1	59.1
Japan	60.1	60.4	60.8	61.3	61.8	62.0	61.7	61.3	60.9	60.9
France	50.4	50.4	50.7	50.9	50.6	50.0	49.0	48.7	48.8	48.5
Germany	51.5	51.6	52.0	52.6	53.0	52.6	51.1	50.2	49.7	49.0
Italy	43.8	43.7	43.6	43.9	44.5	44.0	43.1	42.1	41.8	41.9
Netherlands	50.7	50.0	50.9	52.6	53.2	54.5	54.7	54.7	55.2	55.6
Sweden	65.0	65.7	66.2	66.1	64.9	62.0	58.5	57.6	58.4	57.9
United Kingdom	56.4	58.1	59.3	59.6	58.0	56.7	56.2	56.5	57.2	57.6
Unemployed										
United States[1]	7,425	6,701	6,528	7,047	8,628	9,613	8,940	7,996	7,404	7,236
Canada	1,208	1,082	1,065	1,164	1,492	1,640	1,649	1,541	1,422	1,469
Australia	629	576	508	585	814	925	939	856	766	783
Japan	1,730	1,550	1,420	1,340	1,360	1,420	1,660	1,920	2,100	2,250
France	2,570	2,460	2,320	2,200	2,350	2,560	2,910	3,050	2,920	3,150
Germany	1,800	1,810	1,640	1,460	1,280	1,370	1,720	1,940	1,940	2,120
Italy	1,760	1,790	1,760	1,590	1,580	1,680	2,330	2,560	2,720	2,760
Netherlands	650	480	450	410	400	390	470	520	510	470
Sweden	97	84	72	84	144	255	415	426	404	440
United Kingdom	2,860	2,420	2,070	1,990	2,520	2,880	2,970	2,730	2,480	2,340
Unemployment rate										
United States[1]	6.2	5.5	5.3	5.6	6.8	7.5	6.9	6.1	5.6	5.4
Canada	8.9	7.8	7.5	8.1	10.4	11.3	11.2	10.4	9.5	9.7
Australia	8.1	7.2	6.2	6.9	9.6	10.8	10.9	9.7	8.5	8.6
Japan	2.9	2.5	2.3	2.1	2.1	2.2	2.5	2.9	3.2	3.4
France	10.8	10.3	9.6	9.1	9.6	10.4	11.8	12.3	11.8	12.6
Germany	6.3	6.3	5.7	5.0	4.3	4.6	5.7	6.5	6.5	7.2
Italy	7.9	7.9	7.8	7.0	6.9	7.3	10.2	11.3	12.0	12.1
Netherlands	10.0	7.6	7.0	6.2	5.9	5.6	6.6	7.2	7.0	6.4
Sweden	2.2	1.9	1.6	1.8	3.1	5.6	9.3	9.6	9.1	9.9
United Kingdom	10.3	8.6	7.2	6.9	8.8	10.1	10.5	9.7	8.7	8.2

[1] Data for 1994 are not directly comparable with data for 1993 and earlier years. For additional information, see the box note under "Employment and Unemployment Data" in the notes to this section.

[2] Labor force as a percent of the working-age population.

[3] Employment as a percent of the working-age population.

NOTE: See "Notes on the data" for information on breaks in series for the United States, France, Italy, the Netherlands, and Sweden.

45. Annual indexes of manufacturing productivity and related measures, 12 countries

[1992 = 100]

Item and country	1960	1970	1973	1980	1986	1987	1988	1989	1990	1991	1993	1994	1995	1996
Output per hour														
United States	–	–	–	71.9	88.2	94.3	97.8	97.0	97.7	98.2	102.1	108.1	115.1	120.2
Canada	40.5	60.4	72.2	78.5	92.6	93.5	93.9	94.3	95.8	96.3	101.7	106.2	107.5	108.6
Japan	14.0	38.0	48.1	63.9	76.9	81.2	84.8	89.5	95.4	99.4	100.5	101.8	109.2	114.3
Belgium	17.8	32.7	42.6	64.5	87.6	88.7	91.8	96.7	96.9	99.1	104.1	110.0	109.4	110.6
Denmark	29.5	52.1	66.1	89.2	90.0	89.6	92.9	96.1	96.0	97.9	106.8	–	–	–
France	23.0	45.5	53.9	70.5	85.2	86.7	92.7	97.4	99.1	98.7	101.8	110.4	114.5	117.0
Germany	29.2	52.1	61.1	77.3	89.5	88.4	91.6	94.4	99.0	102.0	100.8	108.4	112.0	117.0
Italy	19.6	36.8	43.9	64.0	82.6	85.0	86.6	89.4	92.8	95.3	104.5	107.4	110.7	113.3
Netherlands	19.5	38.6	48.8	69.8	91.0	91.7	93.8	97.1	98.5	99.6	101.9	114.2	119.6	122.6
Norway	36.7	57.8	67.6	76.7	89.0	93.3	92.1	94.6	96.6	97.5	100.6	101.4	102.5	103.3
Sweden	27.6	52.8	62.1	74.0	88.5	90.1	90.8	93.8	95.0	95.0	106.7	116.1	122.4	125.4
United Kingdom	30.2	43.3	51.4	54.4	74.0	78.2	82.7	86.2	89.3	93.9	105.7	109.3	107.6	106.1
Output														
United States	–	–	–	77.3	91.0	97.9	104.5	104.0	102.5	98.7	103.5	112.2	119.8	124.5
Canada	34.2	61.0	77.6	85.9	99.3	104.1	109.4	110.3	106.2	98.7	104.8	112.8	117.1	118.6
Japan	10.7	38.8	50.0	59.9	74.9	78.4	84.6	90.2	96.3	101.4	96.0	95.4	100.5	105.2
Belgium	30.7	57.6	70.6	78.2	89.0	88.7	93.1	98.9	101.0	100.7	96.9	101.4	104.5	104.7
Denmark	40.1	66.8	78.1	89.7	101.7	97.6	99.1	100.3	99.3	99.2	101.1	103.0	106.7	106.9
France	32.4	66.9	80.1	92.7	91.2	91.1	96.3	101.6	103.5	101.7	96.2	101.3	105.4	106.2
Germany	41.5	70.9	78.5	85.3	89.7	88.0	90.9	94.0	99.1	102.8	91.8	93.5	94.2	93.9
Italy	21.5	44.8	54.1	78.7	84.8	88.5	94.8	98.6	100.4	99.7	96.6	101.9	107.7	106.8
Netherlands	31.9	59.8	68.0	77.8	88.3	89.5	92.8	96.9	100.1	100.6	98.2	104.2	107.5	109.1
Norway	56.5	89.1	102.2	103.6	108.1	110.7	105.3	101.3	100.2	98.3	102.7	106.7	109.9	112.9
Sweden	46.5	81.7	88.5	91.8	105.2	107.7	110.2	111.6	110.6	103.6	101.3	115.7	130.1	132.9
United Kingdom	67.8	90.4	99.7	87.2	90.2	94.5	101.5	105.5	105.4	100.1	101.5	106.2	108.0	108.3
Total hours														
United States	92.2	104.5	110.5	107.6	103.1	103.9	106.8	107.2	104.9	100.6	101.4	103.8	104.1	103.5
Canada	84.5	100.9	107.5	109.5	107.2	111.4	116.5	117.0	110.8	102.5	103.0	106.2	108.9	109.1
Japan	76.3	102.3	104.0	93.8	97.3	96.6	99.8	100.8	100.9	102.0	95.6	93.7	92.0	92.0
Belgium	172.1	176.3	165.6	121.4	101.6	100.0	101.5	102.3	104.3	101.6	93.2	92.2	95.6	94.6
Denmark	135.8	128.3	118.1	100.6	113.1	109.0	106.6	104.3	103.3	101.3	94.7	–	–	–
France	140.6	147.0	148.7	131.5	107.2	105.1	104.0	104.4	104.5	103.0	94.5	91.8	92.0	90.8
Germany	142.4	136.1	128.4	110.3	100.1	99.6	99.2	99.5	100.1	100.8	91.1	86.3	84.1	80.3
Italy	109.6	121.8	123.4	123.0	102.7	104.1	109.5	110.2	108.2	104.6	92.4	94.8	97.2	94.3
Netherlands	163.3	155.1	139.3	111.4	97.0	97.6	98.9	99.7	101.6	101.0	96.4	91.3	89.8	89.0
Norway	154.0	154.3	151.2	135.0	121.6	118.6	114.3	107.1	103.7	100.8	102.1	105.2	107.2	109.3
Sweden	168.3	154.7	142.5	124.0	118.9	119.5	121.4	119.0	116.4	109.0	94.9	99.6	106.3	106.0
United Kingdom	224.4	208.6	194.0	160.3	121.9	120.9	122.7	122.3	118.0	106.6	96.0	97.2	100.3	102.1
Compensation per hour														
United States	14.9	23.8	28.6	55.8	78.6	80.8	84.0	86.8	91.0	95.7	102.9	105.6	108.7	112.2
Canada	10.5	18.3	22.9	50.2	77.5	79.8	83.3	86.4	91.3	97.1	100.1	102.1	103.9	108.5
Japan	4.3	16.5	26.8	58.6	76.1	77.9	79.2	84.2	90.7	95.9	104.6	106.7	110.0	111.6
Belgium	5.6	14.1	21.7	52.7	77.5	79.3	81.0	85.2	89.9	95.4	105.0	108.4	111.6	114.3
Denmark	4.6	13.2	20.4	49.4	72.9	79.7	82.5	87.2	92.6	96.2	102.4	–	–	–
France	4.3	10.5	14.9	41.3	76.8	79.7	82.7	87.2	91.8	96.3	103.6	106.2	107.7	109.6
Germany	8.1	20.8	29.1	53.8	73.1	76.6	79.6	83.4	89.4	95.1	106.1	112.1	117.4	123.5
Italy	1.6	4.6	7.0	27.9	62.6	66.1	68.7	75.5	84.0	93.1	107.1	106.6	109.2	117.1
Netherlands	6.4	20.3	31.8	64.7	85.1	87.8	87.7	88.5	90.8	95.2	103.7	108.2	111.1	114.5
Norway	4.7	11.8	17.0	39.0	69.1	78.5	83.3	87.2	92.3	97.5	101.5	104.4	109.2	114.0
Sweden	4.1	10.8	15.2	37.4	63.1	67.3	71.7	79.4	87.6	95.4	98.0	101.1	106.2	113.4
United Kingdom	3.1	6.4	9.6	33.8	59.4	66.3	70.3	75.2	83.5	93.0	106.3	108.3	108.7	110.8
Unit labor costs: National currency basis														
United States	–	–	–	77.6	89.1	85.7	85.9	89.5	93.1	97.5	100.8	97.7	94.5	93.3
Canada	25.9	30.3	31.8	63.9	83.6	85.3	88.7	91.7	95.2	100.9	98.4	96.1	96.7	99.9
Japan	30.9	43.3	55.7	91.7	99.0	96.0	93.4	94.0	95.0	96.5	104.1	104.9	100.7	97.7
Belgium	31.2	43.3	50.8	81.8	88.6	89.5	88.3	88.1	92.7	96.3	100.9	98.6	102.0	103.3
Denmark	15.5	25.3	30.8	55.3	81.0	89.0	88.8	90.7	96.5	98.3	95.9	97.9	101.4	103.5
France	18.7	23.0	27.6	58.6	90.2	92.0	89.3	89.5	92.6	97.6	101.8	96.2	94.0	93.7
Germany	28.0	39.9	47.6	69.6	81.6	86.7	86.9	88.3	90.3	93.2	105.3	103.5	104.8	105.5
Italy	8.0	12.6	16.0	43.7	75.8	77.8	79.4	84.4	90.5	97.7	102.5	99.2	98.6	103.3
Netherlands	33.0	52.7	65.1	92.7	93.5	95.8	93.5	91.1	92.1	95.6	101.8	94.8	92.9	93.4
Norway	12.9	20.4	25.1	50.8	77.7	84.1	90.4	92.2	95.6	100.0	100.9	102.9	106.5	110.3
Sweden	14.9	20.5	24.4	50.6	71.3	74.7	79.0	84.7	92.3	100.4	91.8	87.0	86.8	90.4
United Kingdom	10.3	14.8	18.8	62.1	80.3	84.5	85.0	87.2	93.5	99.0	100.5	99.1	101.0	104.4
Unit labor costs: U.S. dollar basis														
United States	–	–	–	77.6	89.1	85.7	85.9	89.5	93.1	97.5	100.8	97.7	94.5	93.3
Canada	32.3	35.1	38.4	66.1	72.7	77.8	87.1	93.6	98.6	106.4	92.1	85.0	85.2	88.5
Japan	10.9	15.3	26.1	51.5	74.5	84.2	92.4	86.3	83.1	90.9	118.8	130.1	135.9	113.8
Belgium	20.1	28.0	42.1	90.0	63.7	77.0	77.1	71.9	89.2	90.6	93.8	94.8	111.3	107.2
Denmark	13.5	20.4	30.9	59.4	60.4	78.4	79.5	74.8	94.1	92.7	89.2	93.0	109.4	107.7
France	20.2	22.0	32.9	73.5	69.0	81.0	79.3	74.3	90.0	91.5	95.1	91.8	99.8	96.9
Germany	10.5	17.1	28.1	59.9	58.7	75.3	77.2	73.3	87.2	87.7	99.4	99.6	114.3	109.5
Italy	15.9	24.7	34.0	62.9	62.6	73.9	75.1	75.8	93.0	97.0	80.3	75.8	74.6	82.5
Netherlands	15.4	25.6	41.2	82.1	67.1	83.1	83.1	75.5	88.9	89.8	96.3	91.6	101.8	97.4
Norway	11.3	17.8	27.2	63.9	65.3	77.5	86.1	82.9	95.0	95.7	88.3	90.7	104.5	106.1
Sweden	16.8	23.0	32.7	69.6	58.3	68.5	75.0	76.4	90.8	96.6	68.6	65.7	70.8	78.5
United Kingdom	16.4	20.1	26.0	81.7	66.7	78.4	85.8	80.8	94.5	99.1	85.5	86.0	90.2	92.3

46. Occupational injury and illness rates by industry,[1] United States

Industry and type of case[2]	Incidence rates per 100 full-time workers[3]											
	1985	1986	1987	1988	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]
PRIVATE SECTOR[5]												
Total cases	7.9	7.9	8.3	8.6	8.6	8.8	8.4	8.9	8.5	8.4	8.1	7.4
Lost workday cases	3.6	3.6	3.8	4.0	4.0	4.1	3.9	3.9	3.8	3.8	3.6	3.4
Lost workdays	64.9	65.8	69.9	76.1	78.7	84.0	86.5	93.8	–	–	–	–
Agriculture, forestry, and fishing[5]												
Total cases	11.4	11.2	11.2	10.9	10.9	11.6	10.8	11.6	11.2	10.0	9.7	8.7
Lost workday cases	5.7	5.6	5.7	5.6	5.7	5.9	5.4	5.4	5.0	4.7	4.3	3.9
Lost workdays	91.3	93.6	94.1	101.8	100.9	112.2	108.3	126.9	–	–	–	–
Mining												
Total cases	8.4	7.4	8.5	8.8	8.5	8.3	7.4	7.3	6.8	6.3	6.2	5.4
Lost workday cases	4.8	4.1	4.9	5.1	4.8	5.0	4.5	4.1	3.9	3.9	3.9	3.2
Lost workdays	145.3	125.9	144.0	152.1	137.2	119.5	129.6	204.7	–	–	–	–
Construction												
Total cases	15.2	15.2	14.7	14.6	14.3	14.2	13.0	13.1	12.2	11.8	10.6	9.9
Lost workday cases	6.8	6.9	6.8	6.8	6.8	6.7	6.1	5.8	5.5	5.5	4.9	4.5
Lost workdays	128.9	134.5	135.8	142.2	143.3	147.9	148.1	161.9	–	–	–	–
General building contractors:												
Total cases	15.2	14.9	14.2	14.0	13.9	13.4	12.0	12.2	11.5	10.9	9.8	9.0
Lost workday cases	6.8	6.6	6.5	6.4	6.5	6.4	5.5	5.4	5.1	5.1	4.4	4.0
Lost workdays	120.4	122.7	134.0	132.2	137.3	137.6	132.0	142.7	–	–	–	–
Heavy construction, except building:												
Total cases	14.5	14.7	14.5	15.1	13.8	13.8	12.8	12.1	11.1	10.2	9.9	9.0
Lost workday cases	6.3	6.3	6.4	7.0	6.5	6.3	6.0	5.4	5.1	5.0	4.8	4.3
Lost workdays	127.3	132.9	139.1	162.3	147.1	144.6	160.1	165.8	–	–	–	–
Special trades contractors:												
Total cases	15.4	15.6	15.0	14.7	14.6	14.7	13.5	13.8	12.8	12.5	11.1	10.4
Lost workday cases	7.0	7.2	7.1	7.0	6.9	6.9	6.3	6.1	5.8	5.8	5.0	4.8
Lost workdays	133.3	140.4	135.7	141.1	144.9	153.1	151.3	168.3	–	–	–	–
Manufacturing												
Total cases	10.4	10.6	11.9	13.1	13.1	13.2	12.7	12.5	12.1	12.2	11.6	10.6
Lost workday cases	4.6	4.7	5.3	5.7	5.8	5.8	5.6	5.4	5.3	5.5	5.3	4.9
Lost workdays	80.2	85.2	95.5	107.4	113.0	120.7	121.5	124.6	–	–	–	–
Durable goods:												
Total cases	10.9	11.0	12.5	14.2	14.1	14.2	13.6	13.4	13.1	13.5	12.8	11.6
Lost workday cases	4.7	4.8	5.4	5.9	6.0	6.0	5.7	5.5	5.4	5.7	5.6	5.1
Lost workdays	82.0	87.1	96.8	111.1	116.5	123.3	122.9	126.7	–	–	–	–
Lumber and wood products:												
Total cases	18.5	18.9	18.9	19.5	18.4	18.1	16.8	16.3	15.9	15.7	14.9	14.2
Lost workday cases	9.3	9.7	9.6	10.0	9.4	8.8	8.3	7.6	7.6	7.7	7.0	6.8
Lost workdays	171.4	177.2	176.5	189.1	177.5	172.5	172.0	165.8	–	–	–	–
Furniture and fixtures:												
Total cases	15.0	15.2	15.4	16.6	16.1	16.9	15.9	14.8	14.6	15.0	13.9	12.2
Lost workday cases	6.3	6.3	6.7	7.3	7.2	7.8	7.2	6.6	6.5	7.0	6.4	5.4
Lost workdays	100.4	103.0	103.6	115.7	–	–	–	128.4	–	–	–	–
Stone, clay, and glass products:												
Total cases	13.9	13.6	14.9	16.0	15.5	15.4	14.8	13.6	13.8	13.2	12.3	12.4
Lost workday cases	6.7	6.5	7.1	7.5	7.4	7.3	6.8	6.1	6.3	6.5	5.7	6.0
Lost workdays	127.8	126.0	135.8	141.0	149.8	160.5	156.0	152.2	–	–	–	–
Primary metal industries:												
Total cases	12.6	13.6	17.0	19.4	18.7	19.0	17.7	17.5	17.0	16.8	16.5	15.0
Lost workday cases	5.7	6.1	7.4	8.2	8.1	8.1	7.4	7.1	7.3	7.2	7.2	6.8
Lost workdays	113.8	125.5	145.8	161.3	168.3	180.2	169.1	175.5	–	–	–	–
Fabricated metal products:												
Total cases	16.3	16.0	17.0	18.8	18.5	18.7	17.4	16.8	16.2	16.4	15.8	14.4
Lost workday cases	6.9	6.8	7.2	8.0	7.9	7.9	7.1	6.6	6.7	6.7	6.9	6.2
Lost workdays	110.1	115.5	121.9	138.8	147.6	155.7	146.6	144.0	–	–	–	–
Industrial machinery and equipment:												
Total cases	10.8	10.7	11.3	12.1	12.1	12.0	11.2	11.1	11.1	11.6	11.2	9.9
Lost workday cases	4.2	4.2	4.4	4.7	4.8	4.7	4.4	4.2	4.2	4.4	4.4	4.0
Lost workdays	69.3	72.0	72.7	82.8	86.8	88.9	86.6	87.7	–	–	–	–
Electronic and other electrical equipment:												
Total cases	6.4	6.4	7.2	8.0	9.1	9.1	8.6	8.4	8.3	8.3	7.6	6.8
Lost workday cases	2.7	2.7	3.1	3.3	3.9	3.8	3.7	3.6	3.5	3.6	3.3	3.1
Lost workdays	45.7	49.8	55.9	64.6	77.5	79.4	83.0	81.2	–	–	–	–
Transportation equipment:												
Total cases	9.0	9.6	13.5	17.7	17.7	17.8	18.3	18.7	18.5	19.6	18.6	16.3
Lost workday cases	3.9	4.1	5.7	6.6	6.8	6.9	7.0	7.1	7.1	7.8	7.9	7.0
Lost workdays	71.6	79.1	105.7	134.2	138.6	153.7	166.1	186.6	–	–	–	–
Instruments and related products:												
Total cases	5.2	5.3	5.8	6.1	5.6	5.9	6.0	5.9	5.6	5.9	5.3	5.1
Lost workday cases	2.2	2.3	2.4	2.6	2.5	2.7	2.7	2.7	2.5	2.7	2.4	2.3
Lost workdays	37.9	42.2	43.9	51.5	55.4	57.8	64.4	65.3	–	–	–	–
Miscellaneous manufacturing industries:												
Total cases	9.7	10.2	10.7	11.3	11.1	11.3	11.3	10.7	10.0	9.9	9.1	9.5
Lost workday cases	4.2	4.3	4.6	5.1	5.1	5.1	5.1	5.0	4.6	4.5	4.3	4.4
Lost workdays	73.2	70.9	81.5	91.0	97.6	113.1	104.0	108.2	–	–	–	–

See footnotes at end of table.

46. Continued—Occupational injury and illness rates by industry,[1] United States

Industry and type of case[2]	Incidence rates per 100 full-time workers[3]											
	1985	1986	1987	1988	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]
Nondurable goods:												
Total cases	9.6	10.0	11.1	11.4	11.6	11.7	11.5	11.3	10.7	10.5	9.9	9.2
Lost workday cases	4.4	4.6	5.1	5.4	5.5	5.6	5.5	5.3	5.0	5.1	4.9	4.6
Lost workdays	77.6	82.3	93.5	101.7	107.8	116.9	119.7	121.8	–	–	–	–
Food and kindred products:												
Total cases	16.7	16.5	17.7	18.5	18.5	20.0	19.5	18.8	17.6	17.1	16.3	15.0
Lost workday cases	8.1	8.0	8.6	9.2	9.3	9.9	9.9	9.5	8.9	9.2	8.7	8.0
Lost workdays	138.0	137.8	153.7	169.7	174.7	202.6	207.2	211.9	–	–	–	–
Tobacco products:												
Total cases	7.3	6.7	8.6	9.3	8.7	7.7	6.4	6.0	5.8	5.3	5.6	6.7
Lost workday cases	3.0	2.5	2.5	2.9	3.4	3.2	2.8	2.4	2.3	2.4	2.6	2.8
Lost workdays	51.7	45.6	46.4	53.0	64.2	62.3	52.0	42.9	–	–	–	–
Textile mill:												
Total cases	7.5	7.8	9.0	9.6	10.3	9.6	10.1	9.9	9.7	8.7	8.2	7.8
Lost workday cases	3.0	3.1	3.6	4.0	4.2	4.0	4.4	4.2	4.1	4.0	4.1	3.6
Lost workdays	57.4	59.3	65.9	78.8	81.4	85.1	88.3	87.1	–	–	–	–
Apparel and other textile products:												
Total cases	6.7	6.7	7.4	8.1	8.6	8.8	9.2	9.5	9.0	8.9	8.2	7.4
Lost workday cases	2.6	2.7	3.1	3.5	3.8	3.9	4.2	4.0	3.8	3.9	3.6	3.3
Lost workdays	44.1	49.4	59.5	68.2	80.5	92.1	99.9	104.6	–	–	–	–
Paper and allied products:												
Total cases	10.2	10.5	12.8	13.1	12.7	12.1	11.2	11.0	9.9	9.6	8.5	7.9
Lost workday cases	4.7	4.7	5.8	5.9	5.8	5.5	5.0	5.0	4.6	4.5	4.2	3.8
Lost workdays	94.6	99.5	122.3	124.3	132.9	124.8	122.7	125.9	–	–	–	–
Printing and publishing:												
Total cases	6.3	6.5	6.7	6.6	6.9	6.9	6.7	7.3	6.9	6.7	6.4	6.0
Lost workday cases	2.9	2.9	3.1	3.2	3.3	3.3	3.2	3.2	3.1	3.0	3.0	2.8
Lost workdays	49.2	50.8	55.1	59.8	63.8	69.8	74.5	74.8	–	–	–	–
Chemicals and allied products:												
Total cases	5.1	6.3	7.0	7.0	7.0	6.5	6.4	6.0	5.9	5.7	5.5	4.8
Lost workday cases	2.3	2.7	3.1	3.3	3.2	3.1	3.1	2.8	2.7	2.8	2.7	2.4
Lost workdays	38.8	49.4	58.8	59.0	63.4	61.6	62.4	64.2	–	–	–	–
Petroleum and coal products:												
Total cases	5.1	7.1	7.3	7.0	6.6	6.6	6.2	5.9	5.2	4.7	4.8	4.6
Lost workday cases	2.4	3.2	3.1	3.2	3.3	3.1	2.9	2.8	2.5	2.3	2.4	2.5
Lost workdays	49.9	67.5	65.9	68.4	68.1	77.3	68.2	71.2	–	–	–	–
Rubber and miscellaneous plastics products:												
Total cases	13.4	14.0	15.9	16.3	16.2	16.2	15.1	14.5	13.9	14.0	12.9	12.3
Lost workday cases	6.3	6.6	7.6	8.1	8.0	7.8	7.2	6.8	6.5	6.7	6.5	6.3
Lost workdays	107.4	118.2	130.8	142.9	147.2	151.3	150.9	153.3	–	–	–	–
Leather and leather products:												
Total cases	10.3	10.5	12.4	11.4	13.6	12.1	12.5	12.1	12.1	12.0	11.4	10.7
Lost workday cases	4.6	4.8	5.8	5.6	6.5	5.9	5.9	5.4	5.5	5.3	4.8	4.5
Lost workdays	88.3	83.4	114.5	128.2	130.4	152.3	140.8	128.5	–	–	–	–
Transportation and public utilities												
Total cases	8.6	8.2	8.4	8.9	9.2	9.6	9.3	9.1	9.5	9.3	9.1	8.7
Lost workday cases	5.0	4.8	4.9	5.1	5.3	5.5	5.4	5.1	5.4	5.5	5.2	5.1
Lost workdays	107.1	102.1	108.1	118.6	121.5	134.1	140.0	144.0	–	–	–	–
Wholesale and retail trade												
Total cases	7.4	7.7	7.7	7.8	8.0	7.9	7.6	8.4	8.1	7.9	7.5	6.8
Lost workday cases	3.2	3.3	3.4	3.5	3.6	3.5	3.4	3.5	3.4	3.4	3.2	2.9
Lost workdays	50.7	54.0	56.1	60.9	63.5	65.6	72.0	80.1	–	–	–	–
Wholesale trade:												
Total cases	7.2	7.2	7.4	7.6	7.7	7.4	7.2	7.6	7.8	7.7	7.5	6.6
Lost workday cases	3.5	3.6	3.7	3.8	4.0	3.7	3.7	3.6	3.7	3.8	3.6	3.4
Lost workdays	59.8	62.5	64.0	69.2	71.9	71.5	79.2	82.4	–	–	–	–
Retail trade:												
Total cases	7.5	7.8	7.8	7.9	8.1	8.1	7.7	8.7	8.2	7.9	7.5	6.9
Lost workday cases	3.1	3.2	3.3	3.4	3.4	3.4	3.3	3.4	3.3	3.3	3.0	2.8
Lost workdays	47.0	50.5	52.9	57.6	60.0	63.2	69.1	79.2	–	–	–	–
Finance, insurance, and real estate												
Total cases	2.0	2.0	2.0	2.0	2.0	2.4	2.4	2.9	2.9	2.7	2.6	2.4
Lost workday cases	.9	.9	.9	.9	.9	1.1	1.1	1.2	1.2	1.1	1.0	.9
Lost workdays	15.4	17.1	14.3	17.2	17.6	27.3	24.1	32.9	–	–	–	–
Services												
Total cases	5.4	5.3	5.5	5.4	5.5	6.0	6.2	7.1	6.7	6.5	6.4	6.0
Lost workday cases	2.6	2.5	2.7	2.6	2.7	2.8	2.8	3.0	2.8	2.8	2.8	2.6
Lost workdays	45.4	43.0	45.8	47.7	51.2	56.4	60.0	68.6	–	–	–	–

[1] Data for 1989 and subsequent years are based on the *Standard Industrial Classification Manual*, 1987 Edition. For this reason, they are not strictly comparable with data for the years 1985–88, which were based on the *Standard Industrial Classification Manual*, 1972 Edition, 1977 Supplement.

[2] Beginning with the 1992 survey, the annual survey measures only nonfatal injuries and illnesses, while past surveys covered both fatal and nonfatal incidents. To better address fatalities, a basic element of workplace safety, BLS implemented the Census of Fatal Occupational Injuries.

[3] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as (N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays;
EH = total hours worked by all employees during the calendar year; and
200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

[4] Beginning with the 1993 survey, lost workday estimates will not be generated. As of 1992, BLS began generating percent distributions and the median number of days away from work by industry and for groups of workers sustaining similar work disabilities.

[5] Excludes farms with fewer than 11 employees since 1976.

– Data not available.

47. Fatal occupational injuries by event or exposure, 1992–96

Event or exposure[1]	Fatalities					
	1992	1993	1994	1995	1996	
	Number	Number	Number	Number	Number	Percent
Total	6,217	6,331	6,632	6,275	6,112	100
Transportation incidents	2,484	2,499	2,762	2,588	2,556	42
Highway incident	1,158	1,242	1,343	1,345	1,324	22
Collision between vehicles, mobile equipment	578	659	654	642	656	11
Moving in same direction	78	100	120	127	95	2
Moving in opposite directions, oncoming	201	245	230	246	214	4
Moving in intersection	107	123	144	99	153	3
Vehicle struck stationary object or equipment	192	189	255	275	240	4
Noncollision incident	301	336	373	351	348	6
Jackknifed or overturned—no collision	213	236	274	261	264	4
Nonhighway (farm, industrial premises) incident	436	392	409	389	369	6
Overturned	208	214	226	210	204	3
Worker struck by vehicle	346	365	391	388	349	6
Railway incident	66	86	81	82	75	1
Water vehicle incident	109	119	94	87	107	2
Aircraft incident	353	282	426	283	320	5
Assaults and violent acts	1,281	1,329	1,321	1,280	1,144	19
Homicides	1,044	1,074	1,080	1,036	912	15
Hitting, kicking, beating	52	35	47	46	47	1
Shooting	852	884	934	762	751	12
Stabbing	90	95	60	67	79	1
Self-inflicted injuries	205	222	214	221	199	3
Contact with objects and equipment	1,004	1,045	1,017	916	1,005	16
Struck by object	557	565	590	547	579	9
Struck by falling object	361	346	372	341	402	7
Struck by flying object	77	81	68	63	58	1
Caught in or compressed by equipment or objects	316	311	280	255	283	5
Caught in running equipment or machinery	159	151	147	131	146	2
Caught in or crushed in collapsing materials	110	138	132	99	130	2
Falls	600	618	665	650	684	11
Fall to lower level	507	534	580	577	607	10
Fall from ladder	78	76	86	97	95	2
Fall from roof	108	120	129	143	148	2
Fall from scaffold, staging	66	71	89	82	88	1
Fall on same level	62	49	63	53	49	1
Exposure to harmful substances or environments	605	592	641	609	523	9
Contact with electric current	334	325	348	348	279	5
Contact with overhead power lines	140	115	132	139	116	2
Contact with temperature extremes	33	38	50	56	32	1
Exposure to caustic, noxious, or allergenic substances	127	116	133	107	119	2
Inhalation of substances	83	68	84	62	75	1
Oxygen deficiency	111	112	109	97	92	2
Drowning, submersion	78	90	89	77	67	1
Fires and explosions	167	204	202	207	184	3
Other events or exposures[2]	76	44	24	25	16	–

[1] Based on the 1992 BLS Occupational Injury and Illness Classification Structures.

[2] Includes the category "Bodily reaction and exertion."

NOTE: Totals for major categories may include subcategories not shown separately. Percentages may not add to totals because of rounding. Dashes indicate less that 0.5 percent or data that are not available or that do not meet publication criteria.

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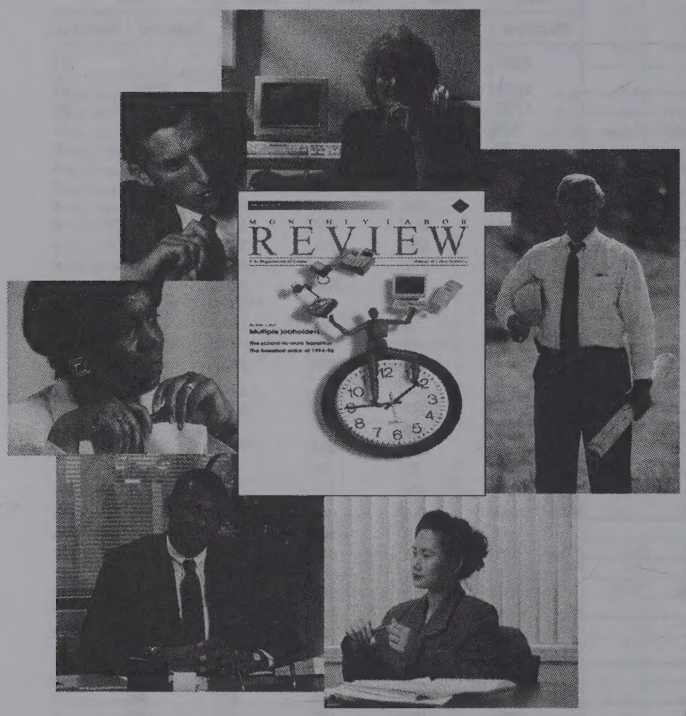

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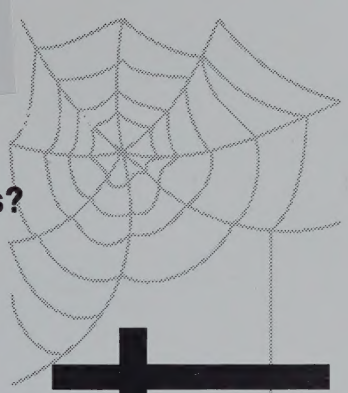

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